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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Ninety-eighth Meeting
Montreal, 22–26 June 2026
Item 8(d) of the provisional agenda¹

PROJECT PROPOSAL: BHUTAN

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 UNDP | Individual consideration |
|---|---------------|--------------------------|

¹ UNEP/OzL.Pro/ExCom/98/1

PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS

Bhutan

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

ARTICLE 7 DATA (Annex F)	Year: 2024	5.36 mt	6,391 CO ₂ -eq tonnes
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COUNTRY PROGRAMME SECTORAL DATA (CO ₂ -eq tonnes) AND ACTIVITIES								Year:	2025
	Aerosol	Foam	Fire-fighting	Air-conditioning (AC) and refrigeration			Servicing	Solvent	Other
				Manufacturing					
				Refrigeration	AC	Other			
HFCs							10,032		
Planned activities agreed (Y/N)							Y		

AVERAGE 2020–2022 HFC CONSUMPTION IN SERVICING	3.7 mt	6,495 CO ₂ -eq tonnes
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BASELINE DATA (CO ₂ -eq tonnes)	2020	2021	2022	Average 2020–2022
HFC annual consumption	2,876	7,941	8,667	6,495
HCFC baseline (65%)				6,610
HFC baseline				13,105

HFC CONSUMPTION ELIGIBLE FOR FUNDING (CO ₂ -eq tonnes)	
Starting point for sustained aggregate reductions	n/a
Previously approved HFC phase-down investment projects	No
Aggregate reductions from previously approved projects	n/a

PROJECT DATA AS AGREED			2026*	2027	2028	2029	Total
Consumption (CO ₂ -eq tonnes)	Montreal Protocol limits		13,105	13,105	13,105	11,795	n/a
	Maximum allowable		13,105	13,105	13,105	11,795	n/a
	Reduction from baseline (%)		0.0	0.0	0.0	10.0	n/a
Project costs requested in principle (US \$)	UNEP	Project costs	31,000	0	54,000	0	85,000
		Support costs	4,030	0	7,020	0	11,050
	UNDP	Project costs	50,000	0	0	0	50,000
		Support costs	6,500	0	0	0	6,500
Total amounts recommended in principle (US \$)		Project costs	81,000	0	54,000	0	135,000
		Support costs	10,530	0	7,020	0	17,550
		Total funds	91,530	0	61,020	0	152,550

* Recommended for approval at the present meeting

Reduction from remaining consumption eligible for funding in stage I (CO ₂ -eq tonnes)	n/a
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Secretariat's recommendation	Individual consideration
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PROJECT DESCRIPTION

1. The present document contains the following sections:
 - I. Summary of the proposal as submitted
 - II. Background: Status of implementation of the HCFC phase-out management plan and previous HFC-related activities
 - III. HFC consumption overview: HFC consumption levels, trends, and consumption by sector
 - IV. Stage I of the Kigali HFC implementation plan, as submitted: Regulatory framework, phase-down strategy, total stage cost, and implementation plan 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 Bhutan, 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 \$152,550, consisting of US \$85,000, plus agency support costs of US \$11,050, for UNEP and US \$50,000, plus agency support costs of US \$6,500, for UNDP, as originally submitted.²

3. The implementation of stage I of the KIP will assist the Government of Bhutan 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 \$91,530, consisting of US \$31,000, plus agency support costs of US \$4,030, for UNEP, and US \$50,000, plus agency support costs of US \$6,500, for UNDP, as originally submitted, for the period of July 2026 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 Bhutan as of March 2026.

Table 1. HPMP implementation status for Bhutan

Particulars	Stage I
Meetings when HPMP was approved or updated	63 rd /95 th
Reduction from baseline	100% by 2025
Total stage cost (US \$)	570,000
Date of completion (planned)	31 December 2027 ³

² As per the letter of 27 February 2026 from the Ministry of Energy and Natural Resources of Bhutan to UNEP.

³ As reflected in document UNEP/OzL.Pro/ExCom/98/6, Bhutan is requesting to extend the date of completion of the country's HPMP to 31 December 2027 at the present meeting.

Status of implementation of previous HFC-related activities

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

Table 2. Previously approved HFC-related activities in Bhutan

Approval meeting	Project title	Implementing agency	Cost (US \$)	Date of completion
74	Survey of ODS alternatives	UNEP	40,000	August 2017
80	Enabling activities for HFC phase-down	UNEP	50,000	June 2021

III. HFC consumption overviewHFC consumption levels

7. Bhutan only imports HFCs for use in the servicing sector. The most consumed substances in 2025 were R-410A (87 per cent of total HFC consumption in CO₂-equivalent (CO₂-eq) tonnes), R-404A (8 per cent), HFC-134a (2 per cent), R-407C (2 per cent), R-449A (1 per cent), and HFC-32 (1 per cent). Table 3 presents the country's HFC consumption as reported to the Ozone Secretariat under Article 7 of the Montreal Protocol, and the country's HFC baseline.

Table 3. 2020–2025 HFC consumption and baseline for Bhutan (Article 7 data)

HFC	GWP	2020	2021	2022	2023	2024	2025*
Metric tonnes (mt)							
HFC-32	675	0.38	0.96	1.13	0.45	3.86	0.13
HFC-134a	1,430	0.98	0.87	0.93	0.32	0.38	0.11
R-404A	3,921.6	0.16	0.540	0.63	0.10	0.50	0.20
R-407C	1,773.9	0.18	0.710	0.76	0.19	0.05	0.09
R-410A	2,087.5	0.13	1.28	1.32	0.43	0.57	4.17
R-449A	1,396.04	0.00	0.00	0.00	0.00	0.00	0.10
Total (mt)		1.83	4.36	4.77	1.49	5.36	4.80
CO₂-eq tonnes							
HFC-32	675	257	648	763	304	2,606	88
HFC-134a	1,430.0	1,401	1,244	1,330	458	543	157
R-404A	3,921.6	627	2,118	2,471	392	1,957	793
R-407C	1,773.9	319	1,259	1,348	337	89	158
R-410A	2,087.5	271	2,672	2,756	898	1,196	8,694
R-449A	1,396.04	0	0	0	0	0	142
Total (CO₂-eq tonnes)		2,876	7,941	8,667	2,388	6,391	10,032
HFC baseline calculation (CO₂-eq tonnes)							
Average HFC consumption in 2020–2022						6,495	
HCFC baseline (65%)						6,610	
HFC baseline						13,105	

* Country programme implementation (CP) data

Country programme implementation report

8. The sectoral HFC consumption data provided by the Government of Bhutan in its country programme (CP) implementation report for 2024 is consistent with the data reported under Article 7 of the Montreal Protocol.

HFC consumption trends

9. Data on the import of HFCs in Bhutan began to be collected in 2019, which, although not shown in table 3 above, was the highest level of HFC consumption recorded since then (reaching 11,659 CO₂-eq tonnes). Between 2020 and 2025, Bhutan's HFC market is characterized by significant year-to-year variability, including a reduction in the import of HFCs in 2020 during the COVID-19 pandemic, a rebound in the subsequent two years followed by another steep decline in 2023 and a marked increase in 2024, followed by a modest decrease in metric tonnes and increase in CO₂-eq tonnes in 2025. The variability in HFC consumption and differences between estimated HFC use in the servicing subsectors and reported consumption in 2025 are further discussed in paragraphs 26-30 below.

HFC use by sector

10. HFCs are mainly used for servicing in residential AC (48.0 per cent in mt and 40.5 per cent in CO₂-eq tonnes), followed by industrial refrigeration (11.4 per cent in mt and 21.4 per cent in CO₂-eq tonnes), commercial AC (15.5 per cent in mt and 13.6 per cent in CO₂-eq tonnes), mobile air-conditioning (MAC) (11.7 per cent in mt and 11.5 per cent in CO₂-eq tonnes), chillers (10.7 in mt and 9.1 cent in CO₂-eq tonnes) and other subsectors, as shown in tables 4 and 5.

Table 4. Estimated 2025 HFC use in Bhutan in servicing subsectors (mt)

Sector	HFC-32	HFC-134a	R-404A	R-407C	R-410A	Total	Share of total (%)
Refrigeration subsectors							
Domestic refrigeration	0.00	0.003	0.00	0.00	0.00	0.003	0.0
Commercial refrigeration (stand-alone)	0.00	0.11	0.03	0.00	0.00	0.13	2.1
Industrial refrigeration (cold storage)	0.00	0.25	0.45	0.01	0.00	0.71	11.4
Transport refrigeration	0.00	0.01	0.03	0.00	0.00	0.04	0.6
Air-conditioning subsectors							
Residential AC	1.53	0.00	0.00	0.05	1.40	2.98	48.0
Commercial AC	0.46	0.00	0.00	0.00	0.50	0.96	15.5
Chillers	0.30	0.05	0.00	0.08	0.24	0.67	10.7
MAC	0.00	0.57	0.00	0.00	0.16	0.73	11.7
Total (mt)	2.29	0.97	0.51	0.13	2.30	6.21	100

Table 5. Estimated 2025 HFC use in Bhutan in the servicing subsectors (CO₂-eq tonnes)

Sector	HFC-32	HFC-134a	R-404A	R-407C	R-410A	Total	Share of total (%)
Refrigeration subsectors							
Domestic refrigeration	0	4	0	0	0	4	0.0
Commercial refrigeration (stand-alone)	0	150	110	0	0	260	2.6
Industrial refrigeration (cold storage)	0	352	1,773	12	0	2,137	21.4
Transport refrigeration	0	10	118	0	0	128	1.3
Air-conditioning subsectors							
Residential AC	1,034	0	0	80	2,931	4,045	40.5
Commercial AC	308	0	0	0	1,046	1,354	13.6

Chillers	205	66	0	142	495	908	9.1
MAC	0	811	0	0	334	1,145	11.5
Total (mt)	1,548	1,393	2,000	234	4,805	9,980	100

Refrigeration and air-conditioning servicing sector

11. There are between 500 and 1,000 refrigeration and air-conditioning (RAC) technicians and between 1,500 and 2,500 auto mechanics, some of whom may work on MAC equipment from time to time, in Bhutan. Bhutan adopted competency standards for servicing technicians based on the Bhutan Vocational Qualification Framework (BVQF) and the Bhutan Qualifications Framework (BQF) which were established by the Bhutan Qualifications and Professionals' Certification Authority (BQPCA). The BVQF ensures a competency-based progression for RAC and MAC from level 1 (basic operator) to level 5 (advanced diploma), integrating both technical proficiency and professional ethics. RAC curricula have a 3-year validity before being considered obsolete and due for renewal. Further, the implementation of a refrigerant-handling licence is under discussion. The Technical and Vocational Education and Training (TVET) authority introduced a system for Recognition of Prior Learning (RPL) in 2022 to assess the skills of technicians lacking formal training and certification. This system is application-based and has resulted in 18 certified graduates to date. The competency standards currently do not incorporate emerging technologies such as HFOs, lower-global-warming-potential (GWP) blends, and energy efficiency. MAC training is included in the BVQF and curriculum; however, its practical implementation remains limited. Trainees receive basic hands-on exposure using standard vehicle AC systems available at the institute, but the national competency assessment does not explicitly evaluate this module. There are six technical training institutes that offer courses in RAC and MAC.

Domestic, commercial, industrial and transport refrigeration servicing

12. In the domestic refrigeration subsector, there is a small amount of the equipment currently in use based on HFC-134a (8 per cent). Domestic refrigeration equipment based on isobutane (R-600a) (92 per cent) has already been established in the market for some time.

13. Stand-alone commercial refrigeration equipment uses predominantly HFC-134a (54 per cent of equipment) and R-404A (11 per cent of equipment), amounting to about 3 per cent of the national HFC use. However, the subsector has begun a transition to low-GWP alternatives such as R-600a and R-290, which account for 35 per cent of the stand-alone commercial refrigeration equipment. The industrial refrigeration subsector, which is almost exclusively used in large cold storage applications for food preservation, is the second-highest HFC-consuming subsector in CO₂-eq tonnes due to R-404A (29 per cent) and HFC-134a (22 per cent) being used in more than half of the equipment. A small amount of industrial refrigeration equipment is based on HCFC-22 (1 per cent) and is to be transitioned, while the remaining 48 per cent of equipment is based on non-HFC alternatives such as ammonia (R-717).

14. The transport refrigeration subsector relies on R-404A (70 per cent of equipment) and HFC-134a (30 per cent); however, given the relatively small bank of equipment, this consumption amounts to only 1.5 per cent of the overall HFC consumption in the country in CO₂-eq tonnes.

Residential and commercial air-conditioning and chillers servicing

15. The residential AC subsector is the highest HFC-consuming sector in terms of CO₂-eq tonnes, and demand has been expanding in the country due to climate variations. Currently, HFC-32 is used in more than half of the equipment, with 1 per cent of equipment based on HCFC-22 to be transitioned, and the remaining 45 per cent of equipment based on R-410A. Single and multi-split AC technologies dominate the sector (mostly with smaller capacity of 1 to 1.5 tonnes of refrigeration (TR)), and heat pump systems are gradually entering the market as an energy-efficient solution for space heating.

16. The commercial AC subsector involves applications in hotels, office buildings, institutional facilities, and commercial establishments, which are mainly variable refrigerant flow (VRF) systems. Consumption in this subsector is also growing and is an important driver in the business-as-usual growth forecast. It is the fourth-highest HFC-consuming subsector, and currently 52 per cent of the equipment relies on R-410A, with the other 48 per cent relying on HFC-32.

17. At 9 per cent, chillers account for a fairly high percentage of the sectoral HFC consumption from 2025 (in CO₂-eq tonnes), considering the relatively small bank of equipment, and that 27 per cent of equipment is HCFC-22-based, to be transitioned, and 30 per cent of equipment is based on HFC-32. The remaining chillers are based on R-410A (37 per cent) and HFC-134a (6 per cent).

Mobile air-conditioning servicing

18. The MAC subsector is the third highest HFC-consuming subsector in Bhutan, relying on HFC-134a (99 per cent) and R-410A (1 per cent). While alternatives such as HFO-1234yf and R-744 (CO₂) have not yet entered the market, Bhutan's law prohibits the import of used cars, and these alternatives are expected to increase based on regional vehicle supply trends. Electric vehicles (EVs) currently make up about 1 per cent of the total vehicle fleet in Bhutan. However, Bhutan's EV strategy aims to rapidly expand EVs across taxis, private cars, buses, and government fleets, supported by nationwide charging and supportive policies already in place. As EVs cannot use waste heat like internal combustion vehicles, they require refrigerants for both cabin cooling and heating, which may result in significant changes in MAC technology and servicing needs.

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

Institutional, policy and regulatory framework

19. In Bhutan, the Regulation on Substances that Deplete the Ozone Layer and Hydrofluorocarbons (HFCs) (2021) entered into force in January 2022. The regulation applies to the production and import/export of ozone-depleting substances (ODS) and HFCs and establishes the framework for implementing the licensing and quota systems, which have been operational since January 2022 and January 2024 respectively. The national ozone unit (NOU) is the national implementing authority and is responsible for setting the annual quota, which is based on the maximum allowable consumption. Importers submit an application requesting the HFC quantity, after which the NOU approves the request and issues a permit based on a first-come, first-served system. The permit is valid for only one month, and currently the importer is requested to submit, on a voluntary basis, a report within 10 days of the import. Work is currently underway to strengthen the 2021 regulation with mandatory reporting. The permit must be submitted to customs, which assesses and clears the import at the point of entry. The customs classification framework in Bhutan is aligned with the standards of the World Customs Organization (WCO), and Harmonized System (HS) codes are consistent with the 2022 WCO edition.

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

Overarching strategy

20. Stage I of the KIP would phase down HFCs by 10 per cent from the established HFC baseline by 2029. Stage I would prioritize strengthening the regulatory and enforcement mechanisms to establish a framework for managing HFC growth. It would focus on building the capacity of customs officers, importers, and brokers, as well as RAC and MAC technicians, to improve compliance, reduce refrigerant leakage, and promote good servicing practices. The strategy will concurrently promote the gradual adoption of low-GWP alternatives through sector-based dialogues, demonstrations, and sector-specific interventions.

Proposed reductions

21. The estimated growth rate in consumption of HFCs in Bhutan, as forecasted by the NOU and UNEP, in the business-as-usual (BAU) scenario is outlined in the table below. The BAU scenario reflects recent gross domestic product (GDP) growth rates⁴ and forecasted sectoral trends, including increased and decreased use of HFC-32 and R-410A, respectively, for residential AC.

Table 6. HFC consumption forecast under the unconstrained scenario, Montreal Protocol limits, and proposed HFC reductions under stage I (CO₂-eq tonnes)

	2026	2027	2028	2029
HFC consumption forecast	10,925	11,859	12,578	13,090
Montreal Protocol HFC consumption limits	13,105	13,105	13,105	11,795
HFC consumption levels proposed under the KIP	13,105	13,105	13,105	11,795
Proposed reductions from the HFC consumption baseline (%)	0	0	0	10

Proposed activities

22. Activities proposed for implementation in the servicing sector under stage I and in the first tranche and their cost breakdown are presented in table 7.

Table 7. Servicing sector activities and their costs in stage I and in the first tranche of stage I of the KIP for Bhutan, as submitted

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⁴ Between 2022 and 2025, gross domestic product grew between 4.9 and 8.1 per cent. <https://thedocs.worldbank.org/en/doc/5d1783db09a0e09d15bbcca8ef0ccc0b-0500052021/related/mpo-btn.pdf>

Activity	Agency	Cost (US \$)	
		Stage I	First tranche
curriculum alignment with the HFC phase-down, including safety modules for alternative refrigerants.			
2.2 Develop a national code of practice for the RAC servicing sector including provisions on leak prevention, refrigerant recovery, safe handling, storage, and transport of flammable or toxic refrigerants.	UNEP	5,000	0
2.3 Training refrigeration technicians: Three training workshops for a total of 45 technicians on good servicing practices, leak detection, refrigerant recovery and reuse, and safe handling of low-GWP refrigerants.	UNEP	22,500	5,500
2.4 International training for trainers on R-717 and CO ₂ : A training programme for two selected trainers in a well-equipped overseas training centre.	UNEP	12,500	12,500
<i>Subtotal component 2</i>		<i>46,000</i>	<i>18,000</i>
Component 3: MAC capacity building			
3.1 Consultations on MAC sector and curricula: Two consultations, including input from foreign vehicle manufacturers on upcoming trends, on updating occupational standards and training programmes for the MAC sector, an initial review to identify gaps and needs, with a report and recommendations.	UNEP	3,000	1,500
3.2 Training on MAC servicing for auto mechanics in collaboration with TVET and industry: At least two trainings for 30 auto mechanics focusing on MAC good servicing practices and providing an overview of HFO-1234yf and other alternatives.	UNEP	15,000	0
<i>Subtotal component 3</i>		<i>18,000</i>	<i>1,500</i>
Components 4 and 5: Equipment support for technical training institutes and demonstration of hydrocarbon-based equipment			
4.1 Procurement of equipment to enhance training capacities: Procurement of one set of RAC and MAC training kits ⁵ for a total of technical training institution (TTI) for the technician training programme; and the installation of HFC-32-based VRF demonstration training unit in a TTI (such as a multi-split outdoor unit with 2-3 indoor units) and a cold room or condensing demonstration unit.	UNDP	30,000	30,000
5.1 Demonstration of R-290-based split ACs and commercial refrigeration units: Procurement of 25 R-290-based split ACs and 3 to 5 display refrigerators/freezers and beverage coolers, and installation to replace HFC systems in selected government offices, meat shops, meat processing units, supermarkets, or restaurants, with monitoring and dissemination of results.	UNDP	14,000	14,000
<i>Subtotal components 4 and 5</i>		<i>44,000</i>	<i>44,000</i>
Project implementation and monitoring (see paragraph 23)	UNEP	0	0
<i>Subtotal for UNEP</i>		<i>85,000</i>	<i>31,000</i>
<i>Subtotal for UNDP</i>		<i>50,000</i>	<i>50,000</i>
Total		135,000	81,000

⁵ Including vacuum pump, recovery machines, recovery cylinder, digital vacuum gauge, leak detector, manifold, flaring tool set, lock ring tools, N2 pressure regulator, exhaust fan, and other tools.

Project implementation, coordination and monitoring

23. The National Ozone Committee (NOC) and Project Steering Committee (PSC) will oversee national implementation of the HFC phase-down, while the NOU and UNEP will manage daily activities, prepare progress reports, and coordinate stakeholders. Existing mechanisms from the HPMP will be maintained, with strengthened customs cooperation and training to improve HFC import monitoring. An independent consultant will verify national HFC consumption when required. No funding was proposed for these activities that would be covered by in-kind government contributions.

Total cost of stage I of the Kigali HFC implementation plan

24. The budget for stage I has been proposed at US \$135,000. The costs of activities in the refrigeration servicing sector have been proposed in line with decision 92/37.

Implementation plan for the first tranche

25. The first funding tranche of stage I of the KIP was submitted in the total amount of US \$81,000, as shown in table 7 above, to be implemented between July 2026 and December 2027. Detailed information on the activities to be implemented under the first tranche, including adjustments to the activities to be undertaken, are presented in paragraph 41 below.

SECRETARIAT'S COMMENTS AND RECOMMENDATION

V. Comments

Overarching strategy

HFC consumption and targets

26. HFC consumption in the 2020–2025 period varied considerably, ranging between 18 per cent and 77 per cent of the country's HFC baseline. Noting this variability, the fact that the HCFC component accounted for 50 per cent of the country's HFC baseline, and the considerable increase in consumption in 2025, the Secretariat sought to better understand the key drivers of this variability in HFC consumption and future HFC demand, and inquired whether the Government had considered lower consumption targets.

27. The trends in HFC and HCFC consumption in the 2020–2025 period differed considerably given the different regulatory and market contexts under which those substances are managed. The former has no clear trend and shows considerable variability, while the latter decreased steadily in line with the 2013 ban on the import of HCFC-based equipment. Given the country's low HFC consumption, even moderate changes in HFC demand can result in significant variations in refrigerant consumption. There are no restrictions on the import of HFC-based equipment. Accordingly, installation, assembly and charging of even a limited number of new HFC-based equipment for the country's cold chain, and variations in routine servicing demand can result in pronounced variability in HFC consumption.

28. Bhutan's current and projected HFC consumption, reflect the country's national circumstances and development trajectory. Bhutan has virtually no centralized systems and condensing units in commercial refrigeration systems based on high-GWP HFCs such as R-404A and R-507A. Bhutan's cold chain lacks infrastructure: refrigerated food storage in supermarkets and food retail outlets is limited and based almost exclusively on standalone systems. In March 2026, the Bhutan Food and Drug Authority issued a directive to strengthen food safety standards within the retail sector, including mandating all meat retail outlets to install appropriate display cabinets, which could lead to a significant increase in HFC consumption. The country is also planning major infrastructure projects, including those related to the Gelephu Mindful City

project,⁶ a large economic zone including a new airport for which construction has started and that is planned to open in 2029, which may lead to increased cooling and refrigeration needs.

29. Based on the above considerations, the Secretariat concurs with the Government of Bhutan that the proposed targets are appropriate for the country. In particular, the Secretariat considers that an appropriate 2029 target needs to take into account the variability in HFC consumption inherent to the very low consumption in the country, and the country's development status, in particular the need to ensure adequate refrigeration in line with the recently issued directive to strengthen food safety standards. While it may be possible for the country to achieve lower consumption in 2029 and beyond in line with a reduced target, the variability in consumption could result in a level of consumption above a reduced target in a given year and thus present a risk to the country's compliance in that year. Moreover, the proposed targets are prudent given the country's unique national circumstances, with effectively no consumption of HFCs in commercial refrigeration systems other than standalone units and recently enacted food safety regulations.

30. Regarding the consumption in 2025, the Secretariat noted that while overall consumption in CO₂-eq tonnes increased, there was considerable variation across substances as reflected in the differences between the CP-reported consumption for 2025 (table 3) and the estimated use in the servicing subsectors (tables 4 and 5). This variability likely reflects a combination of factors, such as consumption associated with the first-time charge of new industrial refrigeration systems and stockpiling, where, given the country's very small consumption, it may be more cost-effective for importers to import a single shipment with a larger quantity of refrigerant in an appropriate container (e.g., a 1-tonne cylinder) than multiple shipments of smaller cylinders whose aggregated volume more closely matches the market demand in a given year. UNEP also compared the cumulative estimated HFC use in metric tonnes for 2019–2025 with reported consumption over the same period and found that the totals were in close agreement (within 11 per cent). Differences for individual substances ranged between -16 per cent (R-407C) and 20 per cent (R-410A), suggesting that the estimated use is a reasonable reflection of the market needs.

Institutional, policy and regulatory framework

HFC licensing and quota system

31. In line with decision 87/50(g), UNEP has confirmed that Bhutan has an established and enforceable system of licensing and quotas for monitoring HFC imports/exports in place. For 2026 and 2027, the HFC quotas have been set at 10,800 CO₂-eq tonnes and 10,462 CO₂-eq tonnes, respectively. The annual quota is based on the established baseline minus 18 per cent, which the NOU retains to support government agencies (such as hospitals) and others in emergency situations. The quota is allocated on a first-come, first-served basis, and there is no separate allocation reserved for new importers beyond the 18 per cent buffer retained from the baseline. Quotas are allocated in kilograms and not CO₂-eq tonnes. The NOU monitors and controls consumption by converting imports to CO₂-eq tonnes and, as quotas are allocated, ensures that the country remains in compliance with its commitment schedule.

32. Import permits are valid for one month and, as per the 2021 Regulation on Substances that Deplete the Ozone Layer and HFCs, importers must submit an import report to the NOU within 10 working days of the date of import. Noting that permits granted in December might be used in the subsequent year, it was agreed that, as part of the ongoing revisions to the 2021 regulation being undertaken by the NOU, the NOU would include a provision clarifying that permits issued in December will have a validity period of either one month or until the end of the calendar year, whichever is earlier. The capacity building undertaken under activity 1.3 will raise awareness among importers of the reporting requirement for imports.

⁶ <https://gmc.bt>

Regulatory framework

33. As submitted, stage I of the KIP included technical assistance to assess the feasibility of equipment bans but did not include the implementation of such bans. The Secretariat noted that the ability of the Bhutanese Government to restrict the import of HFC-based equipment depends, in large part, on the availability of alternative technology in manufacturing countries that export to Bhutan and, therefore, the country can only implement equipment bans once the technology is available and accepted by the local market. Based on the availability and market acceptance of R-600a-based domestic refrigerators, non-R-410A-based residential ACs, and hydrocarbon-based standalone commercial refrigeration equipment, the Secretariat and UNEP discussed whether the country could implement bans on these respective HFC-based types of equipment during the implementation of stage I.

34. Imports of domestic refrigerators are exclusively R-600a-based, and HFC-32-based technology dominates imported residential ACs (accounting for 80 per cent of imported units). Accordingly, it was agreed that the country would ban the import of HFC-based domestic refrigerators and R-410A-based residential ACs by 1 January 2029, noting that the feasibility study that will be undertaken under activity 1.2 would support the implementation of those bans.

35. R-290-based standalone commercial refrigeration equipment is readily available, including in countries in the region that manufacture such equipment and export it to Bhutan. Such equipment is also energy efficient, presenting a significant advantage to end users as it reduces operating costs. However, in 2025, approximately half of the standalone commercial refrigeration equipment imported into the country was HFC-based, while the other half was hydrocarbon-based, suggesting that some challenges in market acceptance remain. Accordingly, it was agreed that the Government would explore the possibility of establishing a ban on HFC-based stand-alone commercial refrigeration equipment and that UNEP will include a report on progress thereof in the country's second tranche request.

Technical and cost-related issues

36. Regarding the proposed demonstration of R-290 residential AC and commercial refrigeration units, the Secretariat suggested UNDP, UNEP and the country consider prioritizing the commercial refrigeration sector. In particular, a demonstration project could include the following components:

- (a) *Demonstration of R-290-based standalone commercial refrigeration equipment:* In 2025, 45 per cent of standalone commercial refrigeration equipment was hydrocarbon-based; 45 per cent was HFC-134a-based, and 10 per cent was R-404A-based. Thus, while hydrocarbon-based standalone commercial refrigeration equipment already constitutes 45 per cent of the equipment in the country in 2025, uptake of the technology had increased only slowly over the last five years. The country could consider a demonstration in a limited number of end users and an awareness-raising activity focused on the benefits of R-290-based standalone commercial refrigeration equipment, including reduced operating costs given the higher energy efficiency of this equipment. Such an activity should include a comparative analysis of the performance and energy use of both the baseline and newly installed equipment over a one-year period, ensure proper monitoring, recording, and documentation of results, and include outreach to share the lessons learned with end users. This component could support the implementation of an eventual ban on the import of HFC-based standalone commercial refrigeration equipment or help the country to prepare for such a ban; and
- (b) *Demonstration of R-290-based monoblocks in food preservation and refrigerated storage:* Replacement of an HFC-based system in food preservation or refrigerated storage (under 20 kW capacity) in a small supermarket with R-290-based monoblocks. As above, such an activity should include a comparative analysis of the performance and energy use of both

the baseline and newly installed equipment over a one-year period, and ensure proper monitoring, recording, and documentation of results.

37. Subsequently, and noting the limited funding available under stage I to address a range of priority activities, the Government decided to remove the demonstration activities from stage I of the KIP and to replace those activities with the procurement of a low-GWP MAC training system in addition to the other equipment for the TTI under component 4.1. The Government intends to submit to a future meeting a proposal to demonstrate energy-efficient, HFC-free technologies through a comprehensive approach involving performance monitoring, energy benchmarking, and outreach, ensuring sufficient scale and duration to generate meaningful evidence and impact in support of the HFC phase-down under decision 91/65. The Secretariat supports the removal of the demonstration activities from stage I of the KIP and looks forward to reviewing the alternate proposal when submitted.

38. Local assembly and installation remain relevant for industrial refrigeration systems used primarily for large-scale cold storage for food distribution; however, limited information was available on that subsector. It was agreed that the sector-based dialogues to be undertaken under activity 1.1 would include a focus on this subsector. Noting that approximately 70 per cent of transport refrigeration equipment (i.e., reefer trucks/containers) is R-404A-based, and the limited options for regionally available alternative technology, it was agreed that UNEP would also include stakeholders from the transport refrigeration sector in the policy dialogues. In addition, during the review and updating of the national competency curricula, the NOU will consider introducing content on thermodynamic compatibility and safe practices for the replacement of R-404A or HFC-134a in transport and industrial refrigeration, noting that such content would be limited to drop-in solutions and would not indicate support for retrofitting or hardware changes.

Total project cost

39. In response to the comments and suggestions from the Secretariat, detailed in paragraphs 31 to 38 the relevant activities and costs were revised for stage I of the KIP and are presented in table 8 in bold.

Table 8. Revised servicing sector activities and their costs in stage I and in the first tranche of the KIP for Bhutan, as agreed

RAC for Bhutan, as agreed

Activity	Agency	Cost (US \$)	
		Stage I	First tranche
Component 1. Policy and enforcement capacity building			
1.1 Sector-based dialogues: (One of the sectors targeted will be the local assembly and installation sector for industrial refrigeration systems)	UNEP	3,000	1,500
1.2 Feasibility of equipment bans and substance restrictions: An assessment of the supply chain, market readiness, and availability of low-GWP alternatives, including stakeholder consultations, report and recommendations. The study shall also assess the presence of small- and medium-sized enterprises involved in the local assembly and installation subsector, the status of their operations and the related consumption, and the feasibility of an early ban on the import of HFC-based standalone commercial refrigeration equipment.	UNEP	12,500	10,000
1.3 Customs capacity building: No change	UNEP	8,000	0
1.4 Procurement of refrigerant identifier: No change	UNDP	6,000	6,000
<i>Subtotal component 1</i>		29,500	17,500
Component 2. RAC sector capacity building			
2.1 Supporting TVET in updating the national certification curricula: No change	UNEP	6,000	0

Activity	Agency	Cost (US \$)	
		Stage I	First tranche
2.2 Develop a national code of practice for the RAC servicing sector including provisions on leak prevention, refrigerant recovery, safe handling, storage, and transport of flammable or toxic refrigerants.	UNEP	10,000	0
2.3 Training refrigeration technicians: No change	UNEP	22,500	5,500
2.4 International training for trainers on R-717 and CO ₂ : No change	UNEP	12,500	12,500
<i>Subtotal component 2</i>		51,000	18,000
Component 3: MAC capacity building			
3.1 Consultations on MAC sector and curricula: No change	UNEP	3,000	1,500
3.2 Training on MAC servicing for auto mechanics in collaboration with TVET and industry: At least one training for a total of 15 auto mechanics focusing on MAC good servicing practices and providing an overview of HFO-1234yf and other alternatives.	UNEP	7,500	0
<i>Subtotal component 3</i>		10,500	1,500
Component 4: Equipment support for technical training institutes (component 5 removed)			
4.1 Procurement of equipment to enhance training capacities: Procurement of one set of RAC and MAC training kits ⁷ for a technical training institution (TTI) for the technician training programme; and the installation of HFC-32-based VRF demonstration training unit in a TTI (such as a multi-split outdoor unit with 2-3 indoor units), a cold room or condensing demonstration unit and a low-GWP MAC training system.	UNDP	44,000	44,000
<i>Subtotal component 4</i>		44,000	44,000
Project implementation and monitoring (see paragraph 23)	UNEP	0	0
<i>Subtotal for UNEP</i>		85,000	31,000
<i>Subtotal for UNDP</i>		50,000	50,000
Total		135,000	81,000

40. At a total cost of US \$135,000, plus agency support costs, stage I of the KIP for Bhutan will result in a reduction of 1,310 CO₂-eq tonnes from the country's HFC baseline. Stage I of the KIP will be implemented in two tranches.

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

41. The agreed plan of action will include the following activities:

- (a) Policy and enforcement capacity building: Two sector-based workshops for importers, end users, and contractors in local assembly and installation and the industrial refrigeration subsector, to gain a better understanding of the subsector, and transport refrigeration, residential and commercial AC to raise awareness of new HFC-related policies (UNEP) (US \$1,500); engagement of government agencies to explore public procurement policies requiring HFC-free equipment in public purchasing; feasibility study on equipment bans and assessment of the supply chain and availability of low-GWP alternatives, including stakeholder consultations, report and recommendations (UNEP) (US \$10,000); procurement of one refrigerant identifier to equip the main entry point (UNDP) (US \$6,000);
- (b) RAC sector capacity building: One training workshop for 11 technicians on good servicing practices, leak detection, refrigerant recovery and reuse, and safe handling of low-GWP

⁷ As indicated in footnote 4.

refrigerants; and a training programme for two selected trainers in a well-equipped overseas training centre (UNEP) (US \$18,000);

- (c) MAC capacity building: Two consultations with sector experts on updating occupational standards and training programmes for the MAC sector; an initial review to identify gaps and needs, with a report and recommendations, including input from foreign vehicle manufacturers on upcoming trends (UNEP) (US \$1,500); and
- (d) Equipment support for technical training institutes: Procurement of one set of RAC and MAC training kits and installation of an HFC-32-based VRF demonstration training unit and a cold room or condensing unit demonstration unit, and a low-GWP MAC training system (UNDP) (US \$44,000).

Co-financing

42. The Government of Bhutan will provide co-financing for stage I of the KIP primarily through in-kind contributions, including support for the implementation and monitoring through the NOU and the provision of office space, staff time, technical expertise, participation in regulatory updates, policy coordination, and inter-agency consultations. Throughout KIP implementation, the NOU will collaborate with the implementing agencies to seek additional funding and contributions, including by establishing partnerships with educational and vocational institutions, as well as industry associations, to strengthen training, certification, and capacity-building efforts.

2026–2028 business plan of the Multilateral Fund

43. UNEP and UNDP are requesting US \$135,000, plus agency support costs, for the implementation of stage I of the KIP for Bhutan. The total value of US \$152,550, including agency support costs, requested for the period of 2026–2028, is US \$600 above the amount in the business plan.

Gender policy implementation

44. In line with decisions 84/92, 90/48, and 92/40, the Government of Bhutan has incorporated the Multilateral Fund's gender policy into the project preparation and formulation for stage I of the KIP. During the project preparation, an assessment of women working and studying in the RAC and MAC servicing sectors was carried out and the recommendations from this assessment have been incorporated into the project activities under stage I of the KIP. During the project preparation 50 per cent of the personnel hired were women. During stage I of the KIP, the NOU will collaborate with the TVET authority to address social barriers to women's entry into the RAC sector by raising awareness and introducing RAC professions and career paths to younger demographics and will work with relevant associations to highlight women working in the RAC sector. The NOU will encourage women to apply for technical and administrative positions in the servicing sector and will track the number of women and men engaged in project implementation and the number of women participating in training and workshops organized under the KIP.

Sustainability of the HFC phase-down and assessment of risks

45. The sustainability of Bhutan's KIP will be ensured through the institutionalization of regulatory measures, including the early bans on the import of HFC-based domestic refrigerators and R-410A-based residential ACs, integration of low-GWP and energy-efficiency considerations into national standards and training systems, and continued capacity-building of enforcement authorities, technicians, and market actors, enabling long-term compliance beyond project completion.

46. Key risks include limited technical capacity for handling alternative refrigerants, limited enforcement capacity and understanding of the local installation and assembly subsector, and the market's

dependence on technologies provided by countries exporting equipment to Bhutan. These risks are mitigated by strengthened customs controls, targeted training and awareness activities, improved data and registration systems, and continued assistance by UNEP and UNDP. In addition, given the very low consumption in the country, there is substantial variability in the country's annual HFC consumption. The Secretariat considered the target proposed by the country prudent, given the variability in HFC consumption experienced by the country in the 2020–2025 period, and the country's national circumstances.

Impact on the climate

47. The activities proposed, including efforts to strengthen regulatory controls, and build servicing capacity to reduce leakage and promote low-GWP alternatives indicate that the implementation of stage I of the KIP will reduce refrigerant emissions in the atmosphere, resulting in climate benefits. A calculation of the impact on the climate of the activities in the KIP indicates that by 2029, Bhutan will have reduced its HFC emissions by approximately 1,310 CO₂-eq tonnes, calculated as the difference between the HFC baseline for compliance and the 2029 target, assuming that all consumed HFCs would have eventually been emitted.

Draft Agreement

48. A draft Agreement between the Government of Bhutan and the Executive Committee for stage I of the KIP is contained in annex I to the present document.

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

49. The completion of the HPMP for Bhutan is planned for 31 December 2027, resulting in simultaneous implementation of the HPMP and the KIP for approximately one and a half years. During that time, the KIP will focus on engaging stakeholders using HFC-based equipment or consuming HFCs, exploring public procurement of HFC-free equipment, assessing the feasibility of bans of HFC-based equipment, training RAC technicians and trainers, assessing MAC training needs, and providing equipment to support technical training institutes. Those activities were not undertaken under the HPMP.

VI. Recommendation

50. The Executive Committee may wish to consider:

- (a) Approving, in principle, stage I of the Kigali HFC implementation plan (KIP) for Bhutan for the period 2026–2029 to reduce HFC consumption by 10 per cent of the country's baseline, in the amount of US \$152,550, consisting of US \$85,000, plus agency support costs of US \$11,050, for UNEP and US \$50,000, plus agency support costs of US \$6,500, for UNDP;
- (b) Noting the commitment of the Government to ban the import of HFC-based domestic refrigerators and R-410A-based residential air-conditioning units by 1 January 2029;
- (c) Approving:
 - (i) The draft Agreement between the Government of Bhutan and the Executive Committee for the reduction in consumption of HFCs in accordance with stage I of the KIP, contained in annex I to the present document; and

- (ii) The first tranche of stage I of the KIP for Bhutan and the corresponding tranche implementation plan, in the amount of US \$91,530 consisting of US \$31,000, plus agency support costs of US \$4,030, for UNEP and US \$50,000, plus agency support costs of US \$6,500, for UNDP.

Annex I

**DRAFT AGREEMENT BETWEEN THE GOVERNMENT OF BHUTAN
AND THE EXECUTIVE COMMITTEE OF THE MULTILATERAL FUND
FOR THE REDUCTION IN CONSUMPTION OF HYDROFLUOROCARBONS
IN ACCORDANCE WITH STAGE I OF THE KIGALI HFC IMPLEMENTATION PLAN
(Period: 2026–2029)**

Purpose

1. This Agreement represents the understanding of the Government of Bhutan (“the Country”) and the Executive Committee with respect to the reduction of controlled use of Annex F substances set out in Appendix 1-A (“The Substances”) to a sustained level of 11,795 CO₂-equivalent (CO₂-eq) tonnes by 1 January 2029 in compliance with the Montreal Protocol schedule and the terms of this Agreement.
2. The Country agrees to meet the annual consumption limits of Annex F substances as set out in row 1.2 of Appendix 2-A (“The Targets, and Funding”) in this Agreement as well as in the Montreal Protocol reduction schedule for Annex F substances mentioned in Appendix 1-A. The Country accepts that, by its acceptance of this Agreement and performance by the Executive Committee of its funding obligations described in paragraph 3, it is precluded from applying for or receiving further funding from the Multilateral Fund in respect to any consumption of Annex F substances that exceeds the level defined in row 1.2 of Appendix 2-A as the final reduction step under this Agreement for Annex F substances specified in Appendix 1-A.
3. Subject to compliance by the Country with its obligations set out in this Agreement, the Executive Committee agrees, in principle, to provide the funding set out in row 3.1 of Appendix 2-A to the Country. The Executive Committee will, in principle, provide this funding at the Executive Committee meetings specified in Appendix 3-A (“Funding Approval Schedule”).
4. The Country agrees to implement this Agreement in accordance with stage I of the Kigali HFC implementation plan (“the Plan”) as approved. In accordance with subparagraph 5(b) of this Agreement, the Country will accept independent verification of the achievement of the annual consumption limits of Annex F substances set out in row 1.2 of Appendix 2-A of this Agreement. The aforementioned verification will be commissioned by the relevant bilateral or implementing agency.

Conditions for funding release

5. The Executive Committee will only provide the Funding, in accordance with the Funding Approval Schedule, when the Country satisfies the following conditions at least 10 weeks in advance of the applicable Executive Committee meeting set out in the Funding Approval Schedule:
 - (a) That the Country has met the Targets set out in row 1.2 of Appendix 2-A for all relevant years. Relevant years are all years since the year in which this Agreement was approved. Years for which there are no due country programme implementation reports at the date of the Executive Committee meeting at which the funding request is being presented are exempted;
 - (b) That the meeting of these Targets has been independently verified for all relevant years, unless the Executive Committee decided that such verification would not be required;
 - (c) That the Country had submitted a Tranche Implementation Report in accordance with Appendix 4-A (“Format of Tranche Implementation Reports and Plans”) covering each

previous calendar year; that it had achieved a significant level of implementation of activities initiated with previously approved tranches; and that the rate of disbursement of funding available from the previously approved tranche was more than 20 per cent; and

- (d) That the Country has submitted a Tranche Implementation Plan in accordance with Appendix 4-A covering each calendar year until and including the year for which the Funding Approval Schedule foresees the submission of the next tranche or, in case of the final tranche, until completion of all activities foreseen.

Monitoring

6. The Country will ensure that it conducts accurate monitoring of its activities under this Agreement. The institutions set out in Appendix 5-A (“Monitoring Institutions and Roles”) will monitor and report on implementation of the activities in the previous Tranche Implementation Plans in accordance with their roles and responsibilities set out in the same appendix.

Flexibility in the reallocation of funds

7. The Executive Committee agrees that the Country may have the flexibility to reallocate part or all approved funds, according to the evolving circumstances, to achieve the smoothest reduction of consumption and phase-down of Annex F substances specified in Appendix 1-A, in accordance with the following considerations:

- (a) Reallocations categorized as major changes must be documented in advance, either in a Tranche Implementation Plan as foreseen in subparagraph 5(d) above, or as a revision to an existing Tranche Implementation Plan to be submitted 10 weeks prior to any meeting of the Executive Committee, for its approval. Major changes would relate to:
 - (i) Issues potentially concerning the rules and policies of the Multilateral Fund;
 - (ii) Changes that would modify any clause of this Agreement;
 - (iii) Changes in the annual levels of funding allocated to the individual bilateral or implementing agencies for the different tranches;
 - (iv) Provision of funding for activities not included in the current endorsed Tranche Implementation Plan, or removal of an activity in the Tranche Implementation Plan, with a cost greater than 30 per cent of the total cost of the last approved tranche;
 - (v) Changes in alternative technologies, on the understanding that any submission for such a request would identify the associated incremental costs, the potential impact on the climate, and any differences in CO₂-eq tonnes to be phased down if applicable, as well as confirm that the Country agrees that potential savings related to the change of technology would accordingly decrease the overall funding level under this Agreement;
- (b) Reallocations not categorized as major changes may be incorporated into the approved Tranche Implementation Plan, under implementation at the time, and reported to the Executive Committee in the subsequent Tranche Implementation Report; and
- (c) Any remaining funds held by the bilateral or implementing agencies or the Country under the Plan will be returned to the Multilateral Fund upon completion of the last tranche foreseen under this Agreement.

8. Specific attention will be paid to the execution of activities in the refrigeration servicing sector included in the Plan, in particular that the Country may use the flexibility available under this Agreement to address specific needs that might arise during project implementation.

Bilateral and implementing agencies

9. The Country agrees to assume overall responsibility for the management and implementation of this Agreement and of all activities undertaken by it or on its behalf to fulfil the obligations under this Agreement. UNEP has agreed to be the lead implementing agency (the “Lead IA”) and UNDP has agreed to be the cooperating implementing agency (the “Cooperating IA”) under the lead of the Lead IA in respect of the Country’s activities under this Agreement. The Country agrees to evaluations, which might be carried out under the monitoring and evaluation work programmes of the Multilateral Fund or under the evaluation programme of the Lead IA and/or Cooperating IA taking part in this Agreement.

10. The Lead IA will be responsible for ensuring coordinated planning, implementation and reporting of all activities under this Agreement, including but not limited to the independent verification as per subparagraph 5(b). The Cooperating IA will support the Lead IA by implementing the Plan under the overall coordination of the Lead IA. The roles of the Lead IA and Cooperating IA is contained in Appendix 6-A and Appendix 6-B, respectively. The Executive Committee agrees, in principle, to provide the Lead IA and the Cooperating IA with the fees set out in rows 2.2 and 2.4 of Appendix 2-A.

Non-compliance with the Targets in the Agreement

11. Should the Country, for any reason, not meet the Targets for the elimination of Annex F substances set out in row 1.2 of Appendix 2-A or otherwise does not comply with this Agreement, then the Country agrees that it will not be entitled to the Funding in accordance with the Funding Approval Schedule. At the discretion of the Executive Committee, funding will be reinstated according to a revised Funding Approval Schedule determined by the Executive Committee after the Country has demonstrated that it has satisfied all its obligations that were due to be met prior to receipt of the next tranche of funding under the Funding Approval Schedule. The Country acknowledges that the Executive Committee may reduce the amount of the Funding by the amount set out in Appendix 7-A (“Reductions in Funding for Failure to Comply”) in respect of each CO₂-eq kg of reductions in consumption not achieved in any one year. The Executive Committee will discuss each specific case in which the Country did not comply with this Agreement and take related decisions. Once decisions are taken, the specific case of non-compliance with this Agreement will not be an impediment for the provision of funding for future tranches as per paragraph 5 above.

12. The Funding of this Agreement will not be modified on the basis of any future Executive Committee decisions that may affect the funding of any other consumption sector projects or any other related activities in the Country.

13. The Country will comply with any reasonable request of the Executive Committee, and the Lead IA and the Cooperating IA to facilitate implementation of this Agreement. In particular, it will provide the Lead IA and the Cooperating IA with access to the information necessary to verify compliance with this Agreement.

Date of completion

14. The completion of the Plan and the associated Agreement will take place at the end of the year following the last year for which a maximum allowable total consumption level has been specified in Appendix 2-A. Should at that time there still be activities that are outstanding, and which were foreseen in the last Tranche Implementation Plan and its subsequent revisions as per subparagraph 5(d) and paragraph 7, the completion of the Plan will be delayed until the end of the year following the implementation of the remaining activities. The reporting requirements as per subparagraphs 1(a), 1(b), and 1(d) of Appendix 4-A

will continue until the time of the completion of the Plan unless otherwise specified by the Executive Committee.

Validity

15. All conditions set out in this Agreement are undertaken solely within the context of the Montreal Protocol and as specified in this Agreement. All terms used in this Agreement have the meaning ascribed to them in the Montreal Protocol unless otherwise defined herein.

16. This Agreement may be modified or terminated only by mutual written agreement of the Country and the Executive Committee of the Multilateral Fund.

APPENDICES

APPENDIX 1-A: THE SUBSTANCES

Substances	Starting point for aggregate reductions in consumption (CO ₂ -eq tonnes)
HFCs	n/a

APPENDIX 2-A: THE TARGETS, AND FUNDING

Row	Particulars		2026	2027	2028	2029	Total
1.1	Montreal Protocol reduction schedule of Annex F substances	%	freeze	freeze	freeze	10	n/a
		CO ₂ -eq tonnes	13,105	13,105	13,105	11,795	n/a
1.2	Maximum allowable total consumption of Annex F substances	Reduction in %	0.0	0.0	0.0	10.0	n/a
		CO ₂ -eq tonnes	13,105	13,105	13,105	11,795	n/a
2.1	Lead IA (UNEP) agreed funding (US \$)		31,000	0	54,000	0	85,000
2.2	Support costs for Lead IA (US \$)		4,030	0	7,020	0	11,050
2.3	Cooperating IA (UNDP) agreed funding (US \$)		50,000	0	0	0	50,000
2.4	Support costs for Cooperating IA (US \$)		6,500	0	0	0	6,500
3.1	Total agreed funding (US \$)		81,000	0	54,000	0	135,000
3.2	Total support costs (US \$)		10,530	0	7,020	0	17,550
3.3	Total agreed costs (US \$)		91,530	0	61,020	0	152,550

APPENDIX 3-A: FUNDING APPROVAL SCHEDULE

1. Funding for the future tranches will be considered for approval at the first meeting of the year specified in Appendix 2-A.

APPENDIX 4-A: FORMAT OF THE TRANCHE IMPLEMENTATION REPORTS AND PLANS

1. The submission of the Tranche Implementation Report and Plans for each tranche request will consist of four parts:

- (a) A narrative report, with data provided by tranche, describing the progress achieved since the previous report, reflecting the situation of the Country in regard to phase-down of Annex F substances, how the different activities contribute to it, and how they relate to each other, including, where applicable, activities related to energy efficiency approved in the

context of HFC phase-down pursuant to decision 91/65. The report should include the amount of Annex F substances consumption reduced as a direct result of the implementation of activities, by substance, the alternative technology used and the related phase in of alternatives, to allow the Secretariat to inform the Executive Committee on the resulting change in climate relevant emissions. The report should also include quantitative information on the activities implemented and further highlight the successes, experiences, and challenges related to the different activities included in the Plan, reflecting any changes in the circumstances in the Country, and providing other relevant information. The report should also include information on and justification for any changes vis-à-vis the previously submitted Tranche Implementation Plan(s), such as delays, use of flexibility for the reallocation of funds during implementation of a tranche as provided for in paragraph 7 of this Agreement, or other changes;

- (b) An independent verification report on the Plan's results and the consumption of Annex F substances, as per subparagraph 5(b) of the Agreement. If not decided otherwise by the Executive Committee, such a verification of consumption data must be provided with each tranche request, covering all relevant years for which a verification report has not yet been acknowledged by the Committee, as specified in subparagraph 5(a) of the Agreement;
- (c) A written description of the activities to be undertaken during the period covered by the requested tranche including quantitative information, highlighting implementation milestones, the time of completion and the interdependence of the activities, and taking into account experiences made and progress achieved in the implementation of earlier tranches; the data in the Plan will be provided by calendar year. The description should include a reference to the overall Plan and progress achieved, as well as any possible changes to the overall Plan that are foreseen. The description should also specify and explain in detail such changes to the overall Plan. This description of future activities can be submitted as a part of the same document as the narrative report under subparagraph 1(a) above; and
- (d) An Executive Summary of about five paragraphs, summarizing the information contained in subparagraphs 1(a) to 1(c) above.

APPENDIX 5-A: MONITORING INSTITUTIONS AND ROLES

1. The national ozone unit (NOU) will be responsible for the day-to-day execution of all components of the project, including oversight of the monitoring, evaluation and reporting consultant. It will be supported by the administration of the Ministry of Energy and Natural Resources, and the Department of Environment and Climate Change.

2. The NOU will be responsible for the monitoring and regular reporting, which will be conducted during the implementation of the Plan to ensure efficient and effective implementation; overall project coordination; stakeholder engagement and coordination; smooth implementation of activities planned under various tranches; delivery of trainings and other expected outcomes; and facilitation of the HFC consumption verification undertaken by the Lead IA. The Lead IA will be responsible for ensuring that periodic progress and financial reports are generated, monitoring progress under the tranches and disbursing funds in accordance with the Agreement.

3. The Ministry of Energy and Natural Resources and the Department of Environment and Climate Change in the Country will be responsible for ensuring the sustainability of consumption reduction targets achieved through the Agreement.

APPENDIX 6-A: ROLE OF THE LEAD IMPLEMENTING AGENCY

1. The Lead IA will be responsible for a range of activities, including at least the following:
 - (a) Ensuring performance and financial verification in accordance with this Agreement and with its specific internal procedures and requirements as set out in the Country's Plan;
 - (b) Assisting the Country in the preparation of the Tranche Implementation Reports and Plans as per Appendix 4-A;
 - (c) Providing independent verification to the Executive Committee that the Targets have been met and associated tranche activities have been completed as indicated in the Tranche Implementation Plan, consistent with Appendix 4-A;
 - (d) Ensuring that the experiences and progress are reflected in the updates to the overall Plan and in the future Tranche Implementation Plans, consistent with subparagraph 1(c) of Appendix 4-A;
 - (e) Fulfilling the reporting requirements of the Tranche Implementation Reports and Plans and of the overall Plan as specified in Appendix 4-A for submission to the Executive Committee including the activities implemented by the Cooperating IA;
 - (f) In the event that the last funding tranche is requested one or more years prior to the last year for which a consumption target had been established, annual Tranche Implementation Reports and, where applicable, verification reports on the current stage of the Plan should be submitted until all activities foreseen had been completed and HFC consumption targets had been met;
 - (g) Ensuring that appropriate independent technical experts carry out the technical reviews;
 - (h) Carrying out the required supervision missions;
 - (i) Ensuring the presence of an operating mechanism to allow for an effective and transparent implementation of the Tranche Implementation Plan and accurate data reporting;
 - (j) Coordinating the activities of the Cooperating IA and ensuring the appropriate sequence of activities;
 - (k) In case of reductions in funding for failure to comply in accordance with paragraph 11 of the Agreement, to determine, in consultation with the Country and the Cooperating IA, the allocation of the reductions to the different budget items and to the funding of the Lead IA and each Cooperating IA;
 - (l) Ensuring that disbursements made to the Country are based on the use of the indicators;
 - (m) Providing assistance with the policy, management and technical support when required;
 - (n) Reaching consensus with the Cooperating IA on any planning, coordination and reporting arrangements required to facilitate the implementation of the Plan; and
 - (o) Timely releasing funds to the Country/participating enterprises for completing the activities related to the project.

2. After consultation with the Country and taking into account any views expressed, the Lead IA will select and mandate an independent entity to carry out the verification of the Plan's results and of the consumption of Annex F substances mentioned in Appendix 1-A, as per subparagraph 5(b) of the Agreement and subparagraph 1(b) of Appendix 4-A.

APPENDIX 6-B: ROLE OF THE COOPERATING IMPLEMENTING AGENCIES

1. The Cooperating IA will be responsible for a range of activities. These activities are specified in the Plan, including at least the following:

- (a) Providing assistance for policy development when required;
- (b) Assisting the Country in the implementation and assessment of the activities funded by the Cooperating IA, and referring to the Lead IA to ensure a coordinated sequence of activities;
- (c) Providing reports to the Lead IA on these activities, for inclusion in the consolidated reports as per Appendix 4-A; and
- (d) Reaching consensus with the Lead IA on any planning, coordination and reporting arrangements required to facilitate the implementation of the Plan.

APPENDIX 7-A: REDUCTIONS IN FUNDING FOR FAILURE TO COMPLY WITH THE TARGETS IN THE AGREEMENT

1. In accordance with paragraph 11 of the Agreement, the amount of funding provided may be reduced by US \$7.00 per CO₂-eq tonne of consumption beyond the level defined in row 1.2 of Appendix 2-A for each year in which the Target specified in row 1.2 of Appendix 2-A has not been met, on the understanding that the maximum funding reduction would not exceed the funding level of the tranche being requested. Additional measures might be considered in cases where non-compliance extends for two consecutive years. Where the Country has failed to comply with the Agreement due to illegal trade, the reduction in funding would not be applied if the illegally traded controlled substances are seized and subsequently confiscated, destroyed, exported, or returned to the country of origin.