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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Ninety-seventh Meeting
Montreal, 1–5 December 2025
Item 9(d) of the provisional agenda¹

PROJECT PROPOSAL: BOTSWANA

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

Phase-down

- | | | |
|---|----------------|--------------------------|
| <ul style="list-style-type: none">• Kigali HFC implementation plan (stage I, first tranche) | UNEP and UNIDO | Individual consideration |
|---|----------------|--------------------------|

¹ UNEP/OzL.Pro/ExCom/97/1

PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS

Botswana

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

LATEST ARTICLE 7 DATA (Annex F)	Year: 2024	141.74 mt	389,849 CO ₂ -eq tonnes
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SECTORAL HFC CONSUMPTION DATA (CO₂-eq tonnes) AND ACTIVITIES									
	Aerosol	Foam	Fire-fighting	Air-conditioning and refrigeration				Solvent	Other
				Manufacturing			Servicing		
				Refrigeration	AC	Other			
Latest CP report (2024)	0	0	0	0	0	0	389,849	0	0
KIP stage I activities as agreed (Y/N)	N	N	N	N	N	N	Y	N	N

AVERAGE 2020–2022 HFC CONSUMPTION IN SERVICING	70.01 mt	154,645 CO ₂ -eq tonnes
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BASELINE CONSUMPTION DATA (CO₂-eq tonnes)	2020	2021	2022	Average 2020-2022
HFC annual consumption	173,589	173,589	116,756	154,645
HCFC baseline (65%)				235,347
HFC baseline				389,992

HFC CONSUMPTION ELIGIBLE FOR FUNDING (CO₂-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		2025*	2026	2027	2028	2029	Total	
Consumption (CO ₂ -eq tonnes)	Montreal Protocol limits	389,992	389,992	389,992	389,992	350,993	n/a	
	Maximum allowable	389,992	389,992	389,992	389,992	331,493	n/a	
	Reduction from baseline (%)	0	0	0	0	15	n/a	
Amounts recommended in principle (US \$)	UNEP	Project costs	62,500	0	0	46,500	0	109,000
		Support costs	8,125	0	0	6,045	0	14,170
	UNIDO	Project costs	33,000	0	0	16,000	0	49,000
		Support costs	4,290	0	0	2,080	0	6,370
	Total project costs		95,500	0	0	62,500	0	158,000
	Total support costs		12,415	0	0	8,125	0	20,540
	Total funds		107,915	0	0	70,625	0	178,540

* 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
 - 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 Botswana, 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 \$178,540, consisting of US \$109,000, plus agency support costs of US \$14,170 for UNEP and US \$49,000, plus agency support costs of US \$6,370, for UNIDO, as originally submitted.²

3. The implementation of stage I of the KIP will assist the Government of Botswana 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 \$125,430, consisting of US \$67,500, plus agency support costs of US \$8,775 for UNEP and US \$43,500, plus agency support costs of US \$5,655, for UNIDO, as originally submitted, for the period of January 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 Botswana as of October 2025.

Table 1. HPMP implementation status for Botswana

Particulars	Stage I	Stage II
Meeting when HPMP was approved/updated	75 th	86 th /96 th
Reduction from baseline	35% by 2020	100% by 2030
Total stage cost (US \$)	560,000	1,160,000
Date of completion (actual/planned)	1 June 2023 ³	31 December 2031

² As per the letter of 8 August 2025 from the Botswana Meteorological Services to the Secretariat

³ As per the extension approved by the Executive Committee in decision 90/23(d)(i)

Status of implementation of previous HFC-related activities

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

Table 2. Previously approved HFC-related activities in Botswana

Approval meeting	Project title	Implementing agency	Cost (US \$)	Date of completion
74 th	Survey of ODS alternatives	UNEP	70,000	Dec-17
81 st	Enabling activities for HFC phase-down	UNEP	150,000	Jun-22

III. HFC consumption overview

HFC consumption levels

7. Botswana only imports HFCs for use in the refrigeration and air-conditioning (RAC) servicing sector. The most consumed substances in 2024 were R-404A (46.05 per cent of total HFC consumption in CO₂-equivalent (CO₂-eq) tonnes), R-410A (20.75 per cent), R-507A (18.92 per cent), HFC-134a (12.39 per cent), and other HFCs (1.89 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. HFC consumption (2020–2024 Article 7 data) and baseline in Botswana

HFC	GWP	2020	2021	2022	2023	2024
Metric tonnes (mt)						
HFC-32	675	0.00	0.00	0.00	0.00	1.25
HFC-134a	1,430	50.00	50.00	16.74	27.35	33.78
R-404A	3,921.60	8.00	8.00	8.23	10.38	45.78
R-407C	1,773.85	1.30	1.30	0.00	3.27	3.67
R-410A	2,087.50	11.20	11.20	13.13	26.15	38.74
R-507A	3,985	11.30	11.30	8.31	11.30	18.51
Total (mt)		81.80	81.80	46.42	78.45	141.74
CO₂-eq tonnes						
HFC-32	675	0	0	0	0	845
HFC-134a	1,430	71,500	71,500	23,944	39,111	48,308
R-404A	3,921.60	31,373	31,373	32,275	40,706	179,543
R-407C	1,773.85	2,306	2,306	0	5,800	6,514
R-410A	2,087.50	23,380	23,380	27,409	54,588	80,876
R-507A	3,985	45,031	45,031	33,129	45,031	73,762
Total (CO₂-eq tonnes)		173,589	173,589	116,757	185,236	389,849
HFC baseline calculation (CO₂-eq tonnes)						
HFC average consumption in 2020–2022					154,645	
HCFC baseline (65%)					235,347	
HFC baseline					389,992	

Country programme implementation report

8. The sectoral HFC consumption data provided by the Government of Botswana 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. The HFC consumption in Botswana was affected due to the COVID-19 pandemic. In 2020 and 2021, it was 60 per cent below the consumption of 2019 (205.09 mt). The consumption again went down in 2022 by 44 per cent compared to 2021, as available stock remained and was not utilized during those

pandemic years. With a full recovery from the pandemic, the consumption shows an increasing trend in 2023 and 2024 resulting from an increased demand for RAC equipment and installation due to infrastructure development, particularly in sectors such as retail and food services as well increasing servicing demand of existing equipment and installations. In addition, the country's newly proposed legislation to control HFCs lead to an industry response to increase imports to ensure availability in future years.

HFC consumption by sector

10. HFCs are mainly consumed for servicing in commercial refrigeration (28.8 per cent in mt and 38.3 per cent in CO₂-eq tonnes), followed by mobile air-conditioning (16.9 per cent in mt and 8.8 per cent in CO₂-eq tonnes), commercial air-conditioning (16.9 per cent in mt and 12.5 per cent in CO₂-eq tonnes), and other subsectors, as shown in tables 4 and 5.

Table 4. HFC consumption in Botswana in the refrigeration and AC servicing subsectors in metric tonnes (2024)

Sector	HFC-32	HFC-134a	R-404A	R-407C	R-410A	R-507A	Total	Share of total (%)
Refrigeration subsectors								
Domestic	0.00	6.95	0.00	0.00	0.00	0.00	6.95	4.90
Commercial	0.00	1.23	27.98	3.67	0.00	7.89	40.77	28.76
Industrial	0.00	1.06	11.40	0.00	0.00	6.9	19.36	13.66
Transport	0.00	0.51	6.41	0.00	0.00	3.71	10.63	7.50
Air-conditioning subsectors								
Residential	0.39	0.00	0.00	0.00	15.6	0.00	15.99	11.28
Commercial	0.87	0.00	0.00	0.00	23.14	0.00	24.01	16.94
Mobile	0.00	24.03	0.00	0.00	0.00	0.00	24.03	16.95
Total	1.26	33.78	45.78	3.67	38.74	18.5	141.74	100

Table 5. HFC consumption in Botswana in the refrigeration and AC servicing subsectors in CO₂-eq tonnes (2024)

Sector	HFC-32	HFC-134a	R-404A	R-407C	R-410A	R-507A	Total	Share of total (%)
Refrigeration subsectors								
Domestic	0	9,939	0	0	0	0	9,939	2.55
Commercial	0	1,759	109,719	6,514	0	31,442	149,433	38.33
Industrial	0	1,516	44,706	0	0	27,497	73,719	18.91
Transport	0	729	25,118	0	0	14,824	40,671	10.43
Air-conditioning subsectors								
Residential	261	0	0	0	32,565	0	32,826	8.42
Commercial	584	0	0	0	48,311	0	48,895	12.54
Mobile	0	34,365	0	0	0	0	34,365	8.82
Total	845	48,308	179,543	6,514	80,876	73,762	389,849	100

Refrigeration and air-conditioning servicing sector

11. There are approximately 2,750 technicians (including 275 women) consuming HFCs in Botswana of which around 70 per cent have formal professional training while the remainder have received on-the-job training. Roughly 88 per cent of the formal technicians have been certified under the RAC technician certification programme and 26 per cent of the informal technicians have been certified. There are six RAC training institutions in the country.

12. A mandatory technician certification programme endorsed by the ODS Regulation of 2014 is in place, which specifies that no technician shall repair or service equipment or products that contain ODS

unless the technician has a permit issued under the Regulation. The Botswana Refrigeration and Air Conditioning Association (BRACA) has been entrusted with the mandate of implementing the training programmes and certification of refrigeration technicians in the country.

Domestic, commercial, industrial and transport refrigeration servicing

13. Domestic refrigeration is the lowest HFC consuming subsector using only HFC-134a as a refrigerant. R-600 based units have also entered the market but HFC-134a based applications still dominate this subsector.

14. Commercial and industrial refrigeration is the highest HFC consuming sector with over 40 per cent of the country's HFC consumption. It includes stand-alone units, condenser units, and centralized systems, and applications for food industry. Commonly used refrigerants are R-404A, R-507A, HFC-134a, and R-407C. Alternatives include ammonia (R-717), hydrocarbons (e.g., R-600a, R-290), and carbon dioxide (R-744), where ammonia is widely used in large applications.

15. Transport refrigeration uses R-404A as the dominant refrigerant, followed by R-507A and HFC-134a. Alternative refrigerants in this sub-sector include carbon dioxide used in transcritical CO₂ systems.

Residential and commercial air-conditioning servicing

16. Residential and commercial air-conditioning subsector is dominated by R-410A and corresponds to around 25 per cent of the HFC consumption. HFC-32 is slowly penetrating the Botswana market.

Mobile air-conditioning servicing

17. The mobile air-conditioning (MAC) sector is dominated by HFC-134a based vehicles, with rare availability of HFO-based ones. This sector accounts for around 17 per cent of the country's HFC consumption.

Firefighting

18. The survey indicated that HFC-227ea (FM-200) is the primary ODS alternative used in large-scale particularly in power stations and telecommunication facilities.

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

Institutional, policy and regulatory framework

19. The National Meteorological Service Act (2014) grants authority to the Department of Meteorological Services (DMS) to prohibit importation and control the use, movement, and trading of ODS and high-global-warming-potential (GWP) refrigerants and to ensure Botswana complies with its obligations under the Montreal Protocol. The Controlled Substances Regulation (2025) provides a licensing and quota system for HFCs. An updated version has been submitted to the Attorney General Chambers and are expected to be approved by November 2025.

20. The DMS is the designated national executing agency for the implementation of Botswana's HPMP and KIP strategies. The national ozone unit (NOU) operates within the DMS and is responsible for the day-to-day management and coordination of Botswana's Montreal Protocol commitments, including the phase-out of HCFCs and the phase-down of HFCs. The national ozone committee (NOC) has also been established which provides technical, strategic and policy guidance on ozone-related activities. The Meteorological Licensing Committee oversees the import/export licensing and quota system for controlled substances (HCFCs and HFCs) to ensure compliance with the Montreal Protocol phase-out and phase-down

schedules. Annual meetings are held with refrigerant importers and stakeholders to allocate quotas and address regulatory issues. Only registered importers with government-issued permits can trade controlled substances.

21. A national training curriculum for good RAC servicing practices has been established, and a mandatory technician certification programme requires all RAC technicians to undergo training on safe handling of alternative refrigerants. Botswana is in the process of adopting minimum energy performance standards (MEPS) for the refrigeration sector based on those established by the Southern African Development Community (SADC). Initiatives to promote energy-efficient and low-GWP cooling technologies are under development.

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

Overarching strategy

22. Stage I of the KIP will be implemented to phase down HFCs by 10 per cent from the established HFC baseline. The overarching strategy of this stage includes strengthening regulatory framework, promoting low-GWP alternatives, building the capacities of the RAC sector for alternative technologies, and adoption of sustainable refrigerant management practices. The Government will prioritize activities by subsector according to the level of consumption and availability of alternatives, and work with industry and other key stakeholders to ensure achievement of the targets for stage I and prepare the sector for future stages of KIP.

Proposed reductions

23. The estimated growth rate in consumption of HFCs in Botswana, as forecasted by the NOU and UNEP, in the business as usual (BAU) scenario, given the increased consumption level in 2024 due to the HCFC phase-out and technology trends, is outlined in the table below.

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

	2025	2026	2027	2028	2029
HFC consumption forecast at an annual growth rate of 6 %*	450,150	474,944	501,226	529,085	558,616
Montreal Protocol HFC consumption limits	389,992	389,992	389,992	389,992	350,993
HFC consumption levels proposed under the KIP	389,992	389,992	389,992	389,992	350,993
Proposed reductions from the HFC consumption baseline (%)	0	0	0	0	10

* Calculated based on estimated increase per year based on economic and sector growth of 6 per cent and the estimated amount of 36,910 CO₂-eq tonnes of HFC phase-in due to HCFC phase-out

Proposed activities

24. Activities for implementation in the servicing sector have been organized under four components. The specific activities and cost breakdown for each component under stage I and the first tranche are presented in table 7.

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

Activity	Agency	Cost (US \$)	
		Stage I	First tranche
1: Regulatory framework and control mechanisms	UNEP	54,000	34,500
1.1 Strengthen enforcement of HFC licensing and quota system through an assessment of quota strategy and a survey (US \$2,000)			
1.2 Develop, revise and adopt standards and labelling of refrigerants (US \$3,000)			
1.3 Revise training curriculum for customs officers to cover HFCs and identification of refrigerants (US \$2,000)			
1.4 Provide five refrigerant identifiers to customs (US \$10,000)			
1.5 Four training sessions for a total of 300 customs and other law enforcement officers on revised curriculum covering HFCs and identification of refrigerants (US \$30,000)			
1.6 Three workshop for importers, clearing agents and stakeholders on the implementation of quotas for HFC imports and other provisions (US \$3,000)			
1.7 Strengthen record keeping by customs and reporting by enterprises (US \$2,000)			
1.8 Improve continuous market monitoring, including surveys (US \$2,000)			
2: Capacity building of refrigeration servicing sector	UNEP	40,000	28,000
2.1 Support the industry association to formalize service sector training to increase participation from informally trained technicians in training and capacity building (US \$2,000)			
2.2 Development of technical manuals and guidelines for safe handling of refrigerant and update to training courses (US \$5,000)			
2.3 Update code of practice and training curriculum to include HFCs and energy efficiency (US \$3,000)			
2.4 Four training sessions on good service practices and safe handling of low-GWP refrigerants for 300 refrigeration technicians targeting technicians working on domestic, commercial and industrial refrigeration equipment (US \$30,000)			
2.5 Pilot demonstration of R-290-based air-conditioning for industrial users (US \$30,000)			
2.6 Awareness raising campaign on HFC phase-down and alternatives to end-users and small- and medium-sized enterprises (SMEs) on the economic and environmental benefits of low-GWP and high-efficiency alternatives (US \$5,000)	UNIDO	35,000	31,000
3: Capacity building of mobile air-conditioning sector	UNIDO	14,000	12,500
3.1 Preparation of MAC training manual (US \$2,000)			
3.2 Procurement of recovery, recycling, and recharging unit used in servicing of MAC systems in vehicles, and other tools ⁴ to one MAC service provider (US \$9,000)			
3.3 Two training of trainers for MAC trainers on the latest MAC technologies, refrigerants, and system designs (US \$3,000)			
4: Project implementation, coordination and monitoring	UNEP	15,000	5,000
Subtotal for UNEP		109,000	67,500
Subtotal for UNIDO		49,000	43,500
Total		158,000	111,000

⁴ MAC servicing unit (recovery/recycling/recharging), recovery machine, manifold gauge, vacuum pumps and other tools

Project implementation, coordination and monitoring

25. The NOU operates within the DMS and is responsible for the coordination of the KIP implementation and monitoring. A budget of US \$15,000 is proposed for consultant (US \$4,000), domestic travel (US \$8,000) and meetings and other activities (US \$3,000).

Total cost of stage I of the Kigali HFC implementation plan

26. The budget for stage I has been proposed at US \$158,000. The costs of activities in the refrigeration servicing sector have been proposed in line with decision 92/37.

Implementation plan for the first tranche

27. The first funding tranche of stage I of the KIP was submitted at a total amount of US \$111,000, as shown in table 7 above, to be implemented between January 2026 and December 2027. Detailed information on the activities to be implemented under the first tranche, including adjustments and level of funds agreed are presented in paragraph 40 below.

SECRETARIAT'S COMMENTS AND RECOMMENDATION

V. Comments

HFC consumption

28. The Secretariat, noting that the consumption for 2024 is much higher than in previous years and that the projected growth was developed based on the 2024 consumption with a HFC growth rate of 6 per cent, enquired about the reasons for the high consumption and the rationale for the projected growth. UNEP explained that the consumption in previous years does not reflect the actual needs of the country, as it was affected by the COVID-19 pandemic, noting that the pre-pandemic consumption in 2019 was even higher than 2024 HFC consumption. Further, the 2024 increase was also driven by the growth of new installations and demand for servicing of previously installed equipment, which is attributed to rising temperatures as well as growth in urbanization and industrialization. This is also consistent with the commercial activity in infrastructure development, which has been the case in Botswana over the last five years. In addition, the industry response to stringent regulatory measures of controlled substances, including HFCs, could have led to some stockpiling. Regarding the projected growth, UNEP indicated that the projected economic growth is 3.1 per cent in 2024 and 3.3 per cent in 2025,⁵ contrasting with the growth in HFC consumption observed in specific sectors. Therefore, the 6 per cent growth rate was estimated based on the assumption that the demand for HFCs between 2024 and 2030 would grow at twice the rate of the country's economic growth, for the same aforementioned reasons, and a slower-than-expected transition to low-GWP alternatives due to availability and costs.

Overarching strategy

29. The country had proposed a reduction of 10 per cent from the country's HFC baseline by 2029. Considering that the HCFC component constitutes 60 per cent of the HFC baseline, the Secretariat enquired about the possibility for considering a lower reduction target. UNEP replied that the consumption in baseline years does not reflect the actual need of the country and was affected by the COVID-19 pandemic. The 2024 HFC consumption is very close to the HFC baseline, therefore a 10 per cent reduction target by 2029 was only considered during the preparation of the KIP. On further discussion, UNEP confirmed that

⁵ According to the Bank of Botswana, 2025

the Government had agreed to revise the reduction target for 2029 to 15 per cent, and that the Government will make efforts to achieve it with KIP activities in the country.⁶

Institutional, policy and regulatory framework

HFC licensing and quota system

30. In line with decision 87/50(g), UNEP has confirmed that Botswana has an established and enforceable system of licensing and quotas for monitoring HFC imports/exports in place. The HFC quota issued for 2025 is 389,849 CO₂-eq tonnes.

31. The Secretariat inquired about the status of the ban, as committed under the HPMP, on imports of HCFC-based equipment and on the import and use of HCFC-141b for flushing purposes. UNEP informed that a regulation has been drafted, which includes a ban on the import of HCFC-based equipment and HCFC-141b. Although the process has faced procedural delays, the draft is currently under review and is expected to be finalized by the end of 2025. The regulation is scheduled to take effect on 1 June 2026. However, HCFC-141b has not been imported into the country since 2019.

32. The Secretariat inquired if the Government was considering a ban on HFC-based equipment. UNEP replied that the Government has agreed to implement a ban on the import of HFC-based domestic refrigeration equipment by 1 January 2029.

Decision XXXV/16 of the Parties⁷

33. The Secretariat noted that Botswana was one of the Parties listed in decision XXXV/16, and that the Government intends to make every effort to comply with the Montreal Protocol control measures through the KIP implementation. In light of decision XXXV/16, the Secretariat would seek guidance from the Executive Committee on the procedure to be followed if the HFC consumption level in the year 2025 was above the Montreal Protocol control limits.

Technical and cost-related issues

34. Noting the delay in submitting the second tranche of stage II of the HPMP, the Secretariat asked about the current status and measures taken to ensure the timely implementation of the KIP. UNEP explained that the Government has taken steps to strengthen institutional capacity of the NOU. This includes appointment of a senior ozone officer with relevant experience, supported by an assistant ozone officer to ensure effective operation of NOU to support HPMP and KIP implementation.

35. The country had originally proposed a technology demonstration involving the supply of R-290 air-conditioning units to institutional users, with a budget of US \$30,000. While the activity was intended to promote hydrocarbon-based technology, it was not accompanied by related policy or capacity-building components mainly due to the fund limitation. Following discussions between the Government of Botswana, UNEP, and UNIDO, it was agreed that this activity would be removed from the KIP. Instead, a new activity to support a training centre has been included. UNEP further informed that the country is currently considering designing a demonstration project, in line with decision 91/65, to enhance energy efficiency by introducing R-290 technology in the air-conditioning sector, including the policy and capacity building elements. This project is expected to be submitted for consideration at the 98th meeting.

36. Following consultations between the Secretariat and UNEP and UNIDO, it was agreed that the budget for providing five refrigerant identifiers for customs was increased from US \$10,000 to US \$20,000,

⁶ As per the letter of 28 October 2025 from the Botswana Meteorological Services to the Secretariat.

⁷ Addressing the impacts of the coronavirus disease (COVID-19) pandemic on hydrofluorocarbon baseline consumption for certain parties.

while the budget for training customs and other law enforcement officers was decreased from US \$30,000 to US \$25,000 and the budget for training refrigeration technicians was also decreased from US \$30,000 to US \$25,000. The total costs for stage I remain the same.

37. The Secretariat noted that the project had initially requested 70 per cent of the cost in the first tranche and 30 per cent in the second tranche. After discussion, this was revised to 60 per cent for the first tranche and 40 per cent for the second and final tranche. A summary of the agreed component costs is presented below in table 8.

Table 8: Servicing sector activities and their costs in stage I and the first tranche of the KIP for Botswana as agreed

Activity	Agency	Stage I costs (US \$)		First tranche costs (US \$)	
		Original	Revised	Original	Revised
1. Regulatory framework and control mechanisms	UNEP	54,000	59,000	34,500	34,500
2. Capacity building of RAC sector	UNEP	40,000	35,000	28,000	23,000
	UNIDO	35,000	35,000	31,000	21,000
3. Capacity building of MAC sector	UNIDO	14,000	14,000	12,500	12,000
4. Project implementation and monitoring	UNEP	15,000	15,000	5,000	5,000
Subtotal for UNEP		109,000	109,000	67,500	62,500
Subtotal for UNIDO		49,000	49,000	43,500	33,000
Total		158,000	158,000	111,000	95,500

Total project cost

38. At the total cost of US \$158,000, stage I of the KIP for Botswana will result in a reduction of 58,499 CO₂-eq tonnes from the country's HFC consumption eligible for funding.

39. Stage I of the KIP will be implemented in two tranches.

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

40. In light of the funding revisions described above, the funding distribution for the first tranche of stage I has been revised accordingly. The agreed plan of action will include the following activities, at a total cost of US \$95,500:

- (a) *Regulatory framework and control mechanisms:* Strengthen the enforcement of the HFC licensing and quota system through an assessment of quota strategy and a survey to determine the potential impact on the proliferation of HFC-alternatives if quotas were placed on equipment; strengthen record keeping by customs and reporting by enterprises and improving continuous market monitoring; revise the training curriculum for customs officers to cover HFCs and identification of refrigerants; provide five refrigerant identifiers to customs; training sessions for a total of 100 customs and other law enforcement officers; workshop for importers, clearing agents and stakeholders on the implementation of quotas for HFC imports and other provisions (UNEP) (US \$34,500);
- (b) *Capacity-building of RAC sector:* Support the industry association to introduce and implement a competency-based certification scheme for technicians and certification of informally trained technicians; develop technical manual and guidelines on safe handling of R-600 and R-290 in commercial refrigeration, design training modules and update the training course for technicians, printing and dissemination of manuals and guidelines; update the code of practice and the training curriculum to include recovery and recycling of refrigerants, reducing emission/venting of refrigerants, reducing energy consumption,

the latest technology developments, and HFC-alternatives; training sessions for a total of 200 refrigeration technicians targeting technicians working on domestic, commercial and industrial refrigeration equipment (UNEP) (US \$23,000); provide equipment and tools⁸ for one training center on flammable refrigerants for residential and commercial stand-alone applications; including training on use of tools and brazing; awareness raising campaign on HFC phase-down and alternatives to end users and SMEs on the economic and environmental benefits of low-GWP and high-efficiency alternatives (UNIDO) (US \$21,000);

- (c) *Capacity-building of MAC sector:* Preparation of an MAC training manual; procurement of MAC training kit⁹; conducting training of trainers; promote availability and accessibility of low-GWP alternatives (UNIDO) (US \$12,000); and
- (d) *Project implementation:* Coordination and management of KIP implementation (UNEP) (US \$5,000).

Co-financing

41. As with the implementation of the HPMP, the Government of Botswana's in-kind contributions will cover costs such as staff salaries, office space, office equipment and coverage of local transportations. The anchoring of the NOU within the Ministry of Environment and Tourism will ensure its good collaboration with other Government ministries and bodies and smooth implementation of the KIP. The NOU is closely linked with the focal points of other multilateral environmental agreements within the Ministry and collaborates on a number of projects that have direct or indirect environmental and climate benefits to ensure synergies.

2025–2027 business plan of the Multilateral Fund

42. UNEP and UNIDO are requesting US \$158,000, plus agency support costs, for the implementation of stage I of the KIP for Botswana. The total value of US \$178,540, including agency support costs, requested for the period of 2025–2027, is US \$104,750 above the amount in the business plan.

Gender policy implementation

43. In line with decisions 84/92(d), 90/48(c) and 92/40(b), the Government of Botswana has incorporated the Multilateral Fund gender policy into the project formulation for stage I of the KIP. During the project preparation, an assessment was carried out, and its recommendations have been incorporated. During stage I of the KIP the NOU will collect and report disaggregated data, and promote women participation and career opportunities in the RAC sector, establish workplace quotas to ensure a minimum percentage of women are employed in the RAC sector, introduce scholarships or grants for women entering the RAC field of study, and track the number of women and men engaged in the project implementation.

Sustainability of the HFC phase-down and assessment of risks

44. The sustainability of Botswana's KIP is supported by a comprehensive approach that integrates regulatory enforcement, capacity-building, and continuous stakeholder engagement. Strengthening of the license and quota system, updating standards of refrigerants, introducing a ban on HFC-based domestic

⁸ Hydrocarbon gas detector, commercial stand-alone refrigeration unit, domestic refrigerator, recovery machine, vacuum pump, digital vacuum gauge set, digital manifold set, mechanical four-way manifold gauge set, adapters and refrigerant hoses, electronic charging scale, tubing and valves tools, portable nitrogen set with regulator, recovery cylinder, portable welding kit, leak detector, class B fire extinguisher, and other support hand tools

⁹ Including fully automated air-conditioning recovery, recycling, and recharging unit; refrigerant recovery machines; manifold gauge sets; vacuum pumps; set of hoses, adapters and valves

refrigerators during stage I, and such other policy actions would ensure that the phase-down is strictly monitored and controlled. In addition to regulatory actions, capacity-building and training activities for technicians will facilitate adoption of low-GWP alternatives in different applications.

45. The potential risk includes the uptake of new alternatives. This will be mitigated by creating awareness in importers, SMEs and end users on low-GWP alternatives, and by facilitating access to these alternative technologies. Training of technicians on good service practices will also minimize the risks relating to adoption of low-GWP technologies. Further, the Government's plan to establish a ban on the import of HFC-based domestic refrigeration equipment by 1 January 2029 and will explore additional bans on other applications using high-GWP refrigerants by 2035 while updating the relevant regulatory framework.

Impact on the climate

46. The activities proposed including implementing bans, strengthening training centres, focusing on the MAC sector capacity building, creating awareness in key stakeholders 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 of the activities in the KIP on the climate indicates that by 2029, Botswana will have reduced its emissions by approximately 58,499 CO₂-eq tonnes of HFCs, calculated as the difference between the HFC baseline for compliance and the 2029 target, assuming that all consumed HFCs would eventually have been emitted.

Draft Agreement

47. A draft Agreement between the Government of Botswana 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

48. The implementation of activities under the KIP and stage II of the HPMP will be coordinated to ensure continuity and efficiency. Annex II summarizes the simultaneous implementation of activities under the HPMP and the KIP.

VI. Recommendation

49. The Executive Committee may wish to consider:

- (a) Approving, in principle, stage I of the Kigali HFC implementation plan (KIP) for Botswana for the period 2025–2029 to reduce HFC consumption by 15 per cent of the country's baseline, in the amount of US \$178,540, consisting of US \$109,000, plus agency support costs of US \$14,170, for UNEP and US \$49,000, plus agency support costs of US \$6,370, for UNIDO;
- (b) Noting:
 - (i) The commitment of the Government of Botswana to supporting reductions in HFC consumption in advance of the Montreal Protocol targets;
 - (ii) That the Government of Botswana would prohibit the import of HFC-based domestic refrigerators from 1 January 2029;
 - (iii) That, if the HFC consumption level for Botswana for the year 2025 was above the Montreal Protocol control limits or the maximum allowable consumption in the

future Agreement between the Government of Botswana and the Executive Committee, on the understanding that the Government of Botswana would continue to make every effort to meet those control limits, the Secretariat would inform and seek guidance from the Executive Committee on the procedure to follow in light of decision XXXV/16;

- (c) Approving the draft Agreement between the Government of Botswana 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
- (d) Approving the first tranche of stage I of the KIP for Botswana and the corresponding tranche implementation plan, in the amount of US \$107,915, consisting of US \$62,500, plus agency support costs of US \$8,125, for UNEP and US \$33,000, plus agency support costs of US \$4,290, for UNIDO.

Annex I

DRAFT AGREEMENT BETWEEN THE GOVERNMENT OF BOTSWANA 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: 2025–2029)

Purpose

1. This Agreement represents the understanding of the Government of Botswana (“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 331,493 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”). UNIDO 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 are 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, 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	2025	2026	2027	2028	2029	Total
1.1	Montreal Protocol reduction schedule of Annex F substances	%	freeze	freeze	freeze	freeze	10
		CO ₂ -eq tonnes	389,992	389,992	389,992	389,992	350,993
1.2	Maximum allowable total consumption of Annex F substances	Reduction in %	0.0	0.0	0.0	0.0	15.0
		CO ₂ -eq tonnes	389,992	389,992	389,992	389,992	331,493
2.1	Lead IA (UNEP) agreed funding (US \$)	62,500	0	0	46,500	0	109,000
2.2	Support costs for Lead IA (US \$)	8,125	0	0	6,045	0	14,170
2.3	Cooperating IA (UNIDO) agreed funding (US \$)	33,000	0	0	16,000	0	49,000
2.4	Support costs for Cooperating IA (US \$)	4,290	0	0	2,080	0	6,370
3.1	Total agreed funding (US \$)	95,500	0	0	62,500	0	158,000
3.2	Total support costs (US \$)	12,415	0	0	8,125	0	20,540
3.3	Total agreed costs (US \$)	107,915	0	0	70,625	0	178,540

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 Botswana Meteorological Services Department of the Ministry of Environment, Natural Resources Conservation and Tourism will be responsible for the overall project monitoring of all activities under the Plan. The national ozone unit (NOU), which is at the Botswana Meteorological Services Department, will be responsible for planning, coordinating, and carrying out daily works of project implementation. It will also assist the Government and non-government organizations to streamline their activities for smooth implementation of the projects. The NOU will submit annual progress reports on the status of implementation to the Lead IA and the Cooperating IA to monitor the progress of implementation of the Plan. The NOU will facilitate the HFC consumption verification undertaken by the Lead IA.

2. Annual consumption of HFCs will be monitored by the NOU in collaboration with the Customs Department and the Ministry of Trade and Commerce. The Ministry of Trade and Commerce is a licensing authority that will issue import and export permits, while the Customs Department will control and monitor the import and export of HFCs at the point of entry. The NOU will liaise with importers of HFCs to obtain necessary data for the reconciliation of statistics on a periodic basis.

3. The NOU will undertake regular inspection of refrigeration and air-conditioning (RAC) training centres and RAC servicing workshops to monitor the condition of RAC servicing tools distributed under the Plan.

4. The NOU will also undertake a market survey to gauge the penetration of non-HFC substitutes and alternative technologies in the RAC sector. The NOU will monitor the implementation of capacity-building activities with relevant agencies, e.g., RAC technician training and customs and enforcement officer training.

5. The Ministry of Environment, Natural Resources Conservation and Tourism in the Country will be responsible for 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 the 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 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.

Annex II

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

	HPMP – stage II		KIP stage I		HPMP+KIP combined cost (US \$)
Category of activity	Activity	Cost (US \$)	Activity	Cost (US \$)	
Strengthening policy enforcement	- Monitoring and control of ODS imports; conducting two border dialogues per year on ODS trade; updating the customs training manual; training 15 trainers and 180 customs officers in identifying ODS and in the safe handling of flammable refrigerants	140,000	- Strengthen enforcement of HFC licensing and quota system through an assessment of quota strategy and a survey to determine the potential impact on the proliferation of HFC-alternatives if quotas were place on equipment - Developing minimum requirements for labeling labelling of refrigerants to complement the safety standards developed under the HPMP for natural refrigerant-based cooling - Strengthen record keeping by customs and reporting by enterprises and improving continuous market monitoring - Revise the training curriculum for customs officers to cover HFCs and identification of refrigerants - Four training sessions for a total of 300 customs and other law enforcement officers - Workshop for importers, clearing agents and stakeholders on the implementation of quotas for HFC imports and other provisions	44,000	184,000
	- Providing 10 refrigerant identifiers	30,000	- Provide five refrigerant identifiers to customs	10,000	40,000
Training and certification of RAC technicians	- Developing standards and procedures to update the certification of technicians; -Certifying 300 technicians in handing flammable refrigerants; - Updating the training curriculum and national codes of conduct for technicians	250,000	- Update the code of practice and the training curriculum to incorporate recovery and recycling of refrigerants, reducing emission/venting of refrigerants, reducing energy consumption, and the latest technological developments, and HFC-alternatives - Support the industry association to introduce and implement a competency-based certification scheme for technicians and certification of 60 per cent of the informally trained technicians - Develop technical manual and guidelines on safe handling of R-600 and R-290 in commercial	45,000	295,000

	HPMP – stage II		KIP stage I		HPMP+KIP combined cost (US \$)
Category of activity	Activity	Cost (US \$)	Activity	Cost (US \$)	
	- Conducting 10 workshops to train 150 servicing technicians in good servicing practices and servicing with alternatives; - Training five trainers in the proper handling of RAC equipment based on flammable refrigerants - Supporting the national RAC association and training institutions with tools and training equipment for their involvement in the certification process - Conducting targeted awareness for commercial end-users on the transition to low-GWP alternatives		refrigeration, design training modules and update training course for technicians, printing manuals and guidelines and dissemination - Four training sessions for a total of 300 refrigeration technicians targeting technicians working on domestic, commercial and industrial refrigeration equipment		
Tools and equipment to training centres	- Providing the four training colleges with tools and equipment - Conducting targeted awareness and training for servicing industry on improving the energy efficiency of RAC equipment and the transition to low-GWP technologies	200,000	- Provide equipment and tools for one training center on flammable refrigerants for residential and commercial stand-alone applications; including training on use of tools and brazing	30,000	230,000
Mobile air-conditioning subsector			- Preparation of an MAC training manual - Procurement of MAC training kit - Two training of trainers for MAC trainers on the latest MAC technologies, refrigerants, and system designs - Promote availability and accessibility of low-GWP alternatives	14,000	14,000
Developing a recovery, recycling and reclamation	- Analyzing and developing a business model for a refrigerant RRR scheme; - Establishing three RRR centres properly equipped; - Technical assistance and training for the operation of the first reclamation centre; and identifying needs and providing tools and equipment to the centres of excellence	320,000			320,000

	HPMP – stage II		KIP stage I		HPMP+KIP combined cost (US \$)
Category of activity	Activity	Cost (US \$)	Activity	Cost (US \$)	
Project implementation and monitoring	Coordination and monitoring	100,000	Coordination and monitoring	15,000	115,000
Total		1,040,000		158,000	1,198,000