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THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
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Montreal, 15-19 December 2023
Item 9(d) of the provisional agenda¹

PROJECT PROPOSAL: DOMINICAN REPUBLIC

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) UNDP, UNEP and UNIDO

¹ UNEP/OzL.Pro/ExCom/93/1

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

PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS

The Dominican Republic

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

(II) LATEST ARTICLE 7 DATA (Annex F)	Year: 2022	1976.76 mt	3,714,281 CO ₂ -eq tonnes*						
(III) LATEST COUNTRY PROGRAMME SECTORAL DATA (CO₂-eq tonnes)			Year: 2022						
Chemical	Aer	Foam	Firefighting	AC and refrigeration		Servicing	Solvent	Other	Total sector consumption
				Manufacturing					
				AC	Other				
HFC-134a						1,729,771			1,729,771
R-404A						789,081			789,081
R-407C						17,189			17,189
R-410A						1,127,083			1,127,083
R-422A						1,226			1,226
R-438A						15,398			15,398
R-452A						1,947			1,947
R-507A						32,239			32,239

* On 5 December 2023, after the present document was completed, the 2022 consumption was revised to 3,713,933 CO₂-eq tonnes

(IV) AVERAGE 2020-2022 HFC CONSUMPTION IN SERVICING	1,502.62 mt	2,752,476 CO ₂ -eq tonnes
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(V) CONSUMPTION DATA (CO₂-eq tonnes)			
Baseline: average 2020-2022 HFC consumption plus 65% of HCFC baseline	3,834,205*	Starting point for sustained aggregate reductions	TBD
CONSUMPTION ELIGIBLE FOR FUNDING			
Already approved	0	Remaining	TBD

* On 5 December 2023, after the present document was completed, the baseline was revised to 3,834,089

(VI) ENDORSED BUSINESS PLAN		2023	2024	2025	Total
UNDP	HFC phase-down (CO ₂ -eq tonnes)	0.0	0.0	0.0	0.0
	Funding (US \$)	796,361	0	0	796,361
UNEP	HFC phase-down (CO ₂ -eq tonnes)	0.0	0.0	0.0	0.0
	Funding (US \$)	0	0	0	0
UNIDO	HFC phase-down (CO ₂ -eq tonnes)	0.0	0.0	0.0	0.0
	Funding (US \$)	0	0	0	0

(VII) PROJECT DATA		2023	2024	2025	2026	2027	2028	2029	Total	
Consumption (CO ₂ -eq tonnes)	Montreal Protocol limits	n/a	3,834,205	3,834,205	3,834,205	3,834,205	3,834,205	3,450,785	n/a	
	Maximum allowable	n/a	3,834,205	3,834,205	3,834,205	3,834,205	3,834,205	3,450,785	n/a	
Amounts requested in principle (US \$)	UNDP	Project costs	365,106	0	0	368,223	0	0	60,839	794,168
		Support costs	25,557	0	0	25,776	0	0	4,259	55,592
	UNEP	Project costs	120,774	0	0	103,272	0	0	45,903	269,949
		Support costs	15,701	0	0	13,425	0	0	5,967	35,093
	UNIDO	Project costs	50,050	0	0	49,280	0	0	10,670	110,000
		Support costs	4,505	0	0	4,435	0	0	960	9,900
Total project costs		535,930	0	0	520,775	0	0	117,412	1,174,117	

Amounts recommended in principle (US \$)	Total support costs	45,763	0	0	43,636	0	0	11,186	100,585
	Total funds	581,693	0	0	564,411	0	0	128,598	1,274,702

(VII) Request for approval of funding for the first tranche (2023)			
Implementing agency	Funds recommended (US \$)		Support costs (US \$)
UNDP	365,106		25,557
UNEP	120,774		15,701
UNIDO	50,050		4,505
Total	535,930		45,763

Secretariat's recommendation:	Individual consideration
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PROJECT DESCRIPTION

1. On behalf of the Government of the Dominican Republic, UNDP 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 \$866,591, consisting of US \$541,878, plus agency support costs of US \$37,931 for UNDP, US \$187,232, plus agency support costs of US \$24,340 for UNEP and US \$69,000, plus agency support costs of US \$6,210 for UNIDO, as originally submitted.²
2. The implementation of stage I of the KIP will assist the Dominican Republic in meeting the target of 10 per cent reduction from its HFC baseline consumption by 1 January 2029.
3. The first tranche of stage I of the KIP being requested at this meeting amounts to US \$411,506, consisting of US \$272,774, plus agency support costs of US \$19,094 for UNDP, US \$77,901, plus agency support costs of US \$10,127 for UNEP and US \$29,000 plus agency support costs of US \$2,610 for UNIDO, as originally submitted, for the period of January 2024 to December 2025.

Background

4. The Dominican Republic has ratified all the amendments to the Montreal Protocol, including the Kigali Amendment on 14 April 2021. The Dominican Republic has an HCFC consumption baseline of 51.2 ODP tonnes or 931.6 metric tonnes (mt) and is set to completely phase out consumption of HCFCs by 1 January 2030.³

Status of implementation of the HCFC phase-out management plan

5. Stage I of the HCFC phase-out management plan (HPMP) for the Dominican Republic was originally approved at the 65th meeting⁴ and revised at the 76th meeting⁵ to meet the 10 per cent reduction from the baseline by 2015, resulting in the phase-out of 27.14 ODP tonnes of HCFCs, at a total cost of US \$1,696,225, plus agency support costs.
6. Stage II of the HPMP for the Dominican Republic was approved at the 77th meeting⁶ to reduce HCFC consumption by 40 per cent from the baseline by 2020, resulting in the phase-out of 15.36 ODP tonnes of HCFCs, at a total cost of US \$1,474,558, plus agency support costs.
7. Stage III of the HPMP for was approved at the 86th meeting⁷ to reduce HCFC consumption by 100 per cent from the baseline by 2030, at a total cost of US \$2,689,920, plus agency support costs. Stage III of the HPMP will be completed by December 2031, as stipulated in the Agreement between the Government of the Dominican Republic and the Executive Committee.

Status of implementation of HFC-related activities

8. At the 75th meeting, the Dominican Republic received funding to conduct a survey on the use of alternatives to ozone-depleting substances (ODSs) (US \$55,000), which was completed in September 2017. At the 74th meeting, the Dominican Republic received funding for a feasibility study on district cooling in Punta Cana (US \$100,000). The study considered the existing cooling systems used and the feasibility of

² As per the letter of 24 August 2023 from the Ministry of Environment and Natural Resources of the Dominican Republic to UNDP.

³ Except for those HCFCs allowed for a servicing tail between 2030 and 2040, where required, consistent with the provisions of the Montreal Protocol.

⁴ Decision 65/37

⁵ Decision 76/10

⁶ Decision 77/42

⁷ Decision 86/86

replacing them with district cooling; the waste treatment plant and the type of waste heat cooling available; the sea water source; stakeholder involvement; and economic and financial factors. At the 80th meeting, the country received funding to implement enabling activities for HFC phase-down (US \$150,000), which were completed in December 2021, with the final report submitted in May 2022. These activities assisted the country *inter alia* in ratifying the Kigali Amendment; facilitating the coordination of stakeholders; raising awareness on HFC phase-down and energy efficiency improvement options among stakeholders in the servicing sector and end users; building capacity in the national ozone unit (NOU); developing training to address energy efficiency challenges in the installation of refrigeration and air-conditioning (RAC) systems; and identifying regulatory and legislative needs for the import/export licensing system for HFCs and HFC alternatives.

9. At the 81st meeting, the Dominican Republic received US \$129,825⁸ to implement, with UNDP's and the Government of Canada's assistance⁹, an investment project to convert the manufacturing of commercial refrigerators at the enterprise Fábrica de Refrigeradores Comerciales, SRL (FARCO) from HFC-134a and R-404A to R-290. The project was completed in November 2020.

Stage I of the Kigali HFC implementation plan

Policy, regulatory and institutional frameworks

10. The Ministry of Environment and Natural Resources of the Dominican Republic established the Programme for the Protection of the Ozone Layer (PRONAOZ), as the body responsible for directing and executing national action plans and projects related to the Montreal Protocol and the elimination of ODSs. PRONAOZ coordinates the institutional infrastructure to facilitate the implementation of the Montreal Protocol and administers the registry of importers, the quota system, and data collection with cross-validation of data by the General Directorate of Customs (DGA) and importers.

11. In 2017, the Government of the Dominican Republic passed a resolution to ban the import and production of refrigeration equipment using HCFCs. Two decrees were issued to establish an energy efficiency program in government institutions and promote sustainable public procurement as national priorities. Guidelines were published for the sustainable installation and procurement of RAC appliances including considerations such as low-global-warming potential (GWP) refrigerants and other criteria for good environmental practices.

12. The regulation for the registration of importers and exporters and the monitoring of HFCs has been in force since 2021. New tariff codes for HFCs and HFC blends were introduced to improve the control of import and export of these substances. The maximum level of the HFC country quotas will be issued to meet the country's commitments under the Kigali Amendment. The HFC individual quotas will be issued from January 1, 2024, and they will be assigned in metric tonnes to each importer of HFCs who made imports in the period 2020 to 2022, keeping 5 per cent of the quota unallocated for potential requests from new importers.

13. The regulation to establish the certification system for all RAC technicians was established by decree in 2015. Since then, the Commission for the Licensing of Refrigeration and Air Conditioning Technicians has been implementing the RAC certification system, most recently by defining procedures and criteria for the evaluation of labour competencies and best practices in the safe and efficient use of refrigerants for each RAC subsector. Work has also been underway to establish the standard on safety requirements for using hydrocarbons (HC) in RAC systems.

⁸ Decision 81/57

⁹ Additional US \$50,000 were provided by the Government of Canada as direct assistance to the country outside the Multilateral Fund

HFC consumption

14. The Dominican Republic only imports HFCs for use in the servicing sector. In 2022, the Dominican Republic consumed HFC-134a (46.6 per cent of total HFC consumption in CO₂ equivalent tonnes (CO₂-eq tonnes)), R-410A (30.3 per cent), R-404A (21.2 per cent), and other HFCs (1.9 per cent). Table 1 presents the country's HFC consumption as reported under Article 7 to the Ozone Secretariat.

Table 1. HFC consumption in Dominican Republic (2019–2022 Article 7 data)

HFC	GWP*	2019	2020	2021	2022**	Share of HFC consumption in 2022 (%)
Metric tonnes						
HFC-32	675	0.33	0.00	5.44	0.00	0.0
HFC-125	3500	0.00	0.00	0.33	0.00	0.0
HFC-134a	1430	926.57	1,045.02	767.43	1,209.63	61.2
R-404A	3921.6	115.30	95.89	146.50	201.21	10.2
R-407C	1773.85	4.14	49.86	3.50	9.69	0.5
R-410A	2087.5	296.85	225.35	174.24	539.92	27.3
R-422A	3142.95	0.00	0.00	0.09	0.501	0.0
R-422D	2728.95	0.00	0.00	0.45	0.00	0.0
R-438A	2264.435	0.98	0.00	1.35	6.80	0.3
R-452A	2139.25	0.00	0.00	0.00	0.91	0.0
R-507A	3985	0.00	10.90	5.10	8.09	0.4
Total (mt)		1,344.17	1,427.02	1,104.43	1,976.76	100
CO₂-eq tonnes						
HFC-32	675	223	0	3,672	0	0.0
HFC-125	3500	0	0	1,155	0	0.0
HFC-134a	1430	1,324,995	1,494,379	1,097,425	1,729,771	46.6
R-404A	3921.6	452,160	376,031	574,514	789,081	21.2
R-407C	1773.85	7,344	88,444	6,208	17,189	0.5
R-410A	2087.5	619,674	470,418	363,726	1,127,083	30.3
R-422A	3142.95	0	0	283	1,574	0.0
R-422D	2728.95	0	0	1,228	0	0.0
R-438A	2264.435	2,219	0	3,057	15,398	0.4
R-452A	2139.25	0	0	0	1,947	0.0
R-507A	3985	0	43,437	20,324	32,239	0.9
Total (CO₂-eq tonnes)		2,406,616	2,472,708	2,071,592	3,714,281	100

*Global warming potential

** On 5 December 2023, after the present document was completed, the 2022 consumption was revised to 3,713,933 CO₂-eq tonnes

15. There was a reduction in HFC consumption between 2019 and 2021 in the Dominican Republic, which varies among refrigerants. This decrease was due to the slowdown of the national economy and global trade caused by the COVID-19 pandemic. Subsequently, an economic recovery from 2021 to 2022 increased servicing needs for refrigerants in the cold chain and air conditioning. Furthermore, the banning¹⁰ of HCFC-22 equipment imports and the relatively slow introduction of non-HFC alternatives in the country contributed to higher HFC demand. As the country is currently experiencing economic growth, demand for HFCs is expected to continue rising, posing a challenge to achieving the consumption freeze by 2024.

Country programme implementation report

16. The Government of the Dominican Republic reported HFC sector consumption data in the 2022 country programme implementation report that is consistent with the data reported under Article 7 of the

¹⁰ Since 1 January 2017.

Montreal Protocol, except for a small difference of 0.11 mt in the consumption of R-422A, which was being verified by the NOU. Subsequently the Article 7 data was revised on 5 December 2023.

HFC distribution by sector

17. The only enterprise manufacturing commercial refrigeration already converted to R-290. Therefore, the current country's HFC consumption is in servicing. Based on the survey carried out during preparation of the KIP, the HFC demand for servicing air conditioning is higher than those for servicing in refrigeration. HFCs were mainly consumed for servicing in the mobile air-conditioning (MAC) subsector (24.4 per cent in CO₂-eq tonnes and 34.2 per cent in mt), followed by residential air conditioning (23.2 per cent in CO₂-eq tonnes and 22.2 per cent in mt), commercial stand-alone refrigeration (12.9 per cent in CO₂-eq tonnes and 14.5 per cent in mt), and other subsectors as shown in table 2.

Table 2. HFC consumption in the refrigeration and air-conditioning servicing subsectors (2022)

Sector	Units installed	HFC-134a	R-404A	R-407C	R-410A	R-422A	R-438A	R-452A	R-507A	Total	Share of total (%)
Metric tonnes											
Refrigeration servicing subsectors											
Domestic	2,177,409	65.32	0	0	0	0	0	0	0	65.32	3.4
Commercial Stand alone	768,020	241.93	40.24	0	0	0	0	0	0	282.17	14.5
Centralized system	1,097	0	90.55	9.69	0	0	6.80	0	0	107.04	5.5
Industrial	182	36.29	106.64	0	0	0	0	0	8.09	151.02	7.8
Transport	7,368	19.35	0	0	0	0	0	0.91	0	20.26	1.0
Air-conditioning subsectors											
Residential	959,862	0	0	0	431.94	0.50	0	0	0	432.44	22.2
Commercial	43,200	0	0	0	107.98	0	0	0	0	107.98	5.5
Chillers	201	60.48	54.33	0	0	0	0	0	0	114.81	5.9
MAC	2,376,060	665.30	0	0	0	0	0	0	0	665.30	34.2
Total	n/a	1,088.67	291.76	9.69	539.92	0.5	6.8	0.91	8.09	1,946.34	100
CO₂-eq tonnes											
Refrigeration servicing subsectors											
Domestic	2,177,409	93,408	0	0	0	0	0	0	0	93,408	2.4
Commercial Stand alone	768,020	345,960	157,805	0	0	0	0	0	0	503,765	12.9
Centralized system	1,097	0	355,101	17,189	0	0	15,398	0	0	387,688	9.9
Industrial	182	51,895	418,199	0	0	0	0	0	32,239	502,333	12.9
Transport	7,368	27,671	0	0	0	0	0	1,947	0	29,618	0.8
Air-conditioning subsectors											
Residential	959,862	0	0	0	901,675	1,571	0	0	0	903,246	23.2
Commercial	43,200	0	0	0	225,408	0	0	0	0	225,408	5.8
Chillers	201	86,486	213,061	0	0	0	0	0	0	299,547	7.7
MAC	2,376,060	951,379	0	0	0	0	0	0	0	951,379	24.4
Total	n/a	1,556,799	1,144,166	17,189	1,127,083	1,571	15,398	1,947	32,239	3,896,392	100

Note: There are differences between the 2022 reported imports (top-bottom approach) and the use estimated in this table (bottom-up approach) that can be attributed to uncertainties associated with field data and the statistical method (i.e., the estimated leakages rates, fluctuations in country conditions, the aggregation of equipment numbers in official data, and limitations in the sampling process, among other factors).

Refrigeration and air-conditioning servicing sector

18. There are approximately 15,000 technicians¹¹ and around 5,000 workshops. At all levels, most of the technicians have acquired their skills through self-training. However, 5,500 technicians have received

¹¹ 4,900 technicians are registered at the RAC association (ADOMTRA).

training in good practices and 608 have been certified as technicians in the first category of technical requirements established by the certification system.

Domestic, commercial, industrial and transport refrigeration servicing

19. Domestic refrigeration and stand-alone commercial appliances, such as small refrigerators and freezers, represent 15.3 per cent of HFC use in CO₂-eq tonnes. Commercial stand-alone units use primarily HFC-134a followed by R-404A. The domestic refrigeration appliances predominantly rely on HFC-134a (75 per cent of total units) and R-600a in a smaller ratio (25 per cent). The introduction of R-600a refrigerators is progressing slowly due to prices, concerns about refrigerant flammability, and lack of expertise on the part of technicians who carry out bad practices such as the reverse conversion from R-600a to HFC-134a. Such practices damage the equipment and demonstrate the need for more knowledgeable technicians about the proper and safe procedures for working on RAC equipment containing hydrocarbons.

20. Centralized commercial and industrial refrigeration servicing consumes about 22.8 per cent of the HFCs in the country (in CO₂-eq tonnes), for tourism facilities and food and beverage processing. The primary refrigerant demands are for R-404A and HFC-134a, whereas the use of R-507A is relatively minor but likely increasing. The use of R-438A and R-407C are mainly for drop-in to replace HCFCs in a few appliances, and they will be eliminated with the withdrawal of those units from the cold chain. These subsectors include factory-sealed and bespoke refrigeration units assembled in workshops or on-site. The higher average refrigerant charge inside the appliances and the leakage from connected components, which increase with the age of the systems, contribute to the high consumption rates. Given that alternatives with lower GWP and higher energy efficiency for those sectors are only partially available in the country, and that capital costs would need to be more affordable for some end users, the HFC phase-down in this subsector is quite challenging.

21. Commercial and industrial refrigeration servicing includes workshops, technicians, and small and medium-sized enterprises designing/assembling and installing equipment. Since the installers of these subsectors are also servicing and maintaining the units, obtaining information on the specific uses for installation and assembly requires more research. Therefore, there is no delineation of servicing uses separated from assembly uses in stage I of the KIP. However, the country could do so for further KIP stages.

22. Transport refrigeration meets the needs of the cold chain, mainly refrigerated foodstuffs. Although this subsector only consumes 0.8 per cent of the HFCs in the country (in CO₂-eq tonnes), it is a relatively large consumer by unit because of wear and tear during road journeys.

Residential and commercial air-conditioning servicing

23. The stationary air-conditioning (AC) subsector (residential, commercial and chillers in table 2 above) accounts for 36.7 per cent of HFCs in CO₂-eq tonnes. Residential AC equipment still uses more HCFC-22 than R-410A. HFC-32-based or R-290-based AC units are scarce, and small quantities of R-422A and R-422D have replaced the use of HCFC-22 in residential AC appliances. Meanwhile, commercial AC relies mainly on R-410A while chillers use primarily R-404A and HFC-134a.

Mobile air-conditioning servicing

24. This sector, which was not assisted during the HPMP, consumes 24.4 per cent of HFCs in CO₂-eq tonnes in the country. Of the vehicles in the Dominican Republic, 96 per cent have air conditioning based on HFC-134a, and only a very small percentage already have alternative HFO-1234yf, which is only used in new high-end vehicles. Most of the imported vehicles are used, so they do not have the aforementioned alternative technology. Furthermore, similar to domestic refrigeration, automotive air-conditioning technicians retro-convert from HFO to HFC in many cases, because the refrigerant is less expensive, and the performance is virtually the same.

Firefighting applications

25. The Dominican Republic imports portable HFC-125-based extinguishers and negligible quantities of HFC-125 (0.01 per cent of the baseline) to refill them and no growth in this sector is estimated. Alternatives are still under assessment to avoid the introduction of other possible environmental impacts and stage II of the KIP will address this sector.

Minimum energy performance standards

26. Currently, no standards or labelling on energy efficiency requirements are in place for importing RAC appliances into the Dominican Republic. The NOU has had preliminary contact with the Ministry of Energy, and discussions will continue to establish the energy efficiency requirements by subsector.

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

Overarching strategy

27. The Government of the Dominican Republic is proposing stage I of the KIP to be implemented simultaneously with the HPMP until 2030, with subsequent stages to address the phase-down targets in 2035, 2040 and 2045.

28. Stage I will be focused on the targets of freezing to the baseline in 2024 and a 10 per cent reduction from the HFC baseline by 2029. The reduction will be achieved by implementing the licensing and quota system to control HFC supply, including customs and enforcement officer training; training and certifying RAC technicians in the proper handling of flammable refrigerants; supporting training institutions and technicians with tools and equipment; and ensuring recovery and recycling in the MAC sector and from inefficient RAC equipment to reduce the demand for HFCs.

Established HFC baseline and proposed reductions

29. The Government of the Dominican Republic reported its Article 7 data for 2020–2022. By adding 65 per cent of the HCFC baseline (in CO₂-eq tonnes) to the average HFC consumption in 2020–2022, the established HFC baseline is 3,834,205 CO₂-eq tonnes, as shown in table 3.

Table 3. HFC baseline for Dominican Republic (CO₂-eq tonnes)*

Baseline calculation	2020	2021	2022
HFC annual consumption	2,472,708	2,071,592	3,714,281
HFC average consumption 2020-2022			2,752,860
HCFC baseline (65%)			1,081,345
HFC baseline			3,834,205

* On 5 December 2023, after the present document was completed, the 2022 consumption was revised to 3,713,933 CO₂-eq tonnes and the baseline was also revised to 3,834,089

30. The Government of the Dominican Republic and UNDP have estimated HFC consumption based on the growth or decrease assumptions for each HFC considering the current technology trends per subsector and have projected an estimated consumption of 4,940,788 CO₂-eq tonnes in 2029 under a business-as-usual scenario. Furthermore, noting that HFC consumption in 2022 is 3 per cent below the baseline level, immediate action is needed to ensure country compliance with the HFC phase-down in 2024 and 2029.

Proposed activities and total cost of stage I of the Kigali HFC implementation plan

31. The implementation of activities under stage I of the KIP will support the country to meet the two first targets of the Kigali Amendment and to create the conditions for an appropriate and sustainable adoption of low-GWP alternatives. These conditions include strengthening the legal framework and inter-institutional coordination; raising awareness and disseminating information on low-GWP alternatives; capacity building for the safe use of low-GWP refrigerants in RAC systems; and the reduction of emissions of HFCs over the refrigerant life cycle. The budget for stage I had been established at US \$798,110, as submitted, and subsequently revised as explained in paragraphs 49 to 54 below. The proposed activities and their costs are summarized in table 4.

Table 4. Activities agreed for implementation in the servicing sector under stage I of the KIP

#	Activity and sub-activities	Agency	Cost as submitted (US \$)	Adjusted cost (US \$)
I.	Strengthening of the legal framework and inter-institutional coordination			
I.1	<i>Strengthening of HFC regulatory framework under the Kigali Amendment:</i> adjusting the provisions of the HFC quota system to meet commitments post-2029, inter-institutional coordination meetings to conduct a regulatory impact assessment of additional HFC control measures ¹² and two training sessions to public institutions and the RAC association on the additional legal measures to be adopted; and development of a national registry of large and medium-sized HFC end users	UNDP	49,000	49,000
I.2	<i>Strengthening the capacity of customs and enforcement officers in the control of HFC trade:</i> strengthening the control mechanisms of the NOU to monitor the HFC imports, including development of an electronic system for registration of HFC quotas and import permits in CO ₂ -eq tonnes; hiring an international expert to deliver the train-the-trainer workshops for customs officers and provide technical support to develop a model course to be used as part of the regular training of officers working at customs check points; updating the training manual with the new control measures; carrying out 4 three-day training courses on new regulations, identification of refrigerants and prevention of illegal trade, for 40 customs and enforcement officers each; carrying out 4 one-day training courses on HS codes and revised regulations for 50 brokers and importers each; strengthening the Customs Registration System on HFCs and implementing the 2022 Harmonized Customs Code and further revisions	UNEP	59,000	111,949
	Procurement and delivery of four wide-range portable refrigerant identifiers and spare parts to customs	UNDP	16,000	16,000
I.3	<i>Gender mainstreaming programme:</i> develop a diagnosis of needs and priorities; identify the main barriers and develop an action plan for gender equality within KIP activities; and conduct two sensitization and training workshops for institutions and main stakeholders	UNDP	23,250	23,250
<i>Subtotal for component I</i>			<i>147,250</i>	<i>200,199</i>
II	Awareness and information dissemination on zero and low-GWP alternatives			
II.1	<i>Awareness raising and information dissemination programme:</i> designing and implementing a massive campaign through mass media on country measures to control and reduce HFC emissions and consumption, and alternative technologies, among other	UNDP	34,000	34,000

¹² Measures to be assessed would be energy efficiency standards, specific regulations for the import and installation of HFC-based equipment, and reduction of HFC emissions, among others.

#	Activity and sub-activities	Agency	Cost as submitted (US \$)	Adjusted cost (US \$)
	subjects; and organizing three workshops for main stakeholders to evaluate the media campaign (50 participants each)			
II.2	<i>Awareness raising of end users</i> : conducting four regional awareness seminars (for 75 end users each) to promote energy-efficient and zero and low-GWP alternatives	UNDP	16,000	16,000
<i>Subtotal for component II</i>			<i>50,000</i>	<i>50,000</i>
III.	Capacity building for the safe use of low-GWP refrigerants in RAC systems			
III.1	<i>Strengthening of vocational training centres</i> : provide training and didactic equipment ¹³ to four RAC vocational training centres for the use and handling of CO ₂ , R-290, and R-600a, and training and follow-up in the use of the didactic equipment	UNDP	181,860	238,800
III.2	<i>Strengthening of the labour-competency-based certification system for technicians and training programme</i> : update the curricula of RAC training courses to include the safe handling of flammable and high-pressure refrigerants, basic notions of electronic controls of RAC equipment, and inverter technology, among other topics; train at least 600 technicians in the new curricula; update the certification of labour competency standards to include new categories for handling zero and low-GWP alternatives, with at least 200 technicians certified in the new certification model; and develop an electronic registry system of certified technicians to enable end users to contact those technicians for services at their facilities	UNEP	78,000	158,000
III.3	<i>Provision of tool kits¹⁴ to 75 certified technicians</i> : to adopt good practices in the safe handling of commercial refrigeration equipment or systems operating with hydrocarbon refrigerant gas	UNDP	93,077	145,740
<i>Subtotal for component III</i>			<i>352,937</i>	<i>542,540</i>
IV.	Reduction of emissions of HFCs over refrigerant life cycle			
IV.1	<i>Good Practices and recovery and recycling training in the MAC sector</i> : conducting 20 training courses of 32 hours (theoretical and hands-on) for 600 MAC technicians, including training materials, guidelines, and posters	UNIDO	69,000	100,000
IV.3	<i>Provision of recovery and recycling equipment for the MAC sector</i> : identification and selection of interested workshops with the highest yearly frequency of MAC maintenance; acquisition and distribution of recovery and recycling equipment and accessories for at least 50 MAC workshops	UNDP	58,328	126,600
IV.4	<i>Technical assistance for the recovery of refrigerants from inefficient RAC appliances</i> : coordinate with the Ministry of Energy and the importers and suppliers of RAC equipment to set up a scheme for enabling the correct removal and handling of refrigerants in equipment retired from service; ¹⁵ identify and install four centres for environmentally sound operations when	UNDP	48,040	48,040

¹³ One demonstration system of trans-critical CO₂ applied to refrigerated display cabinets in supermarkets and eight units of the following didactic modules: R-290 air conditioning, domestic refrigeration equipment R-600a with double door and inverter system, R-290 medium temperature (198 litres) upright commercial refrigerator, R-290 (198 litres) low-temperature horizontal commercial refrigeration, R-290 cold room (18 m³).

¹⁴ Each kit will contain a vacuum pump (12 cubic-feet-per-minute, 2 stages), manifold (for HC, 4-way), hose set with ball valves, precision load scale (150 kg), leak detector, and digital vacuum gauge.

¹⁵ The energy efficiency programme being implemented by the Ministry of Energy and Mines promotes the exchange of old inefficient air conditioners based on HFC-134a and R-410A for new efficient appliances.

#	Activity and sub-activities	Agency	Cost as submitted (US \$)	Adjusted cost (US \$)
	dismantling RAC appliances; deliver recovery tools ¹⁶ to ensure proper recovery, storage and handling of the refrigerant to the four dismantling centres; conduct four training workshops for ten workers and servicing technicians each; awareness-raising campaign to promote the service of dismantling equipment, including the design of a brochure explaining the whole programme, with a press and social media campaign			
<i>Subtotal for component IV</i>			175,368	274,640
Subtotal for activities in the servicing sector			725,555	1,067,379
Project coordination and monitoring				
	<i>Project coordination and monitoring</i>	UNDP	72,555	96,738
	<i>Project coordination and monitoring</i>	UNIDO	0	10,000
<i>Subtotal for project coordination and monitoring</i>			72,555	106,738
Grand total			798,110	1,174,117

Project coordination and monitoring

32. The Ministry of Environment with the support of PRONAOZ is the entity responsible for the coordination and monitoring of KIP implementation. Project coordination and monitoring costs at 10 per cent of the total project costs were requested and were adjusted in line with the revisions discussed in paragraph 31 above. Funds are requested to prepare the verification report (US \$16,000) and hire national consultants to provide support with the implementation of activities, organization of meetings and annual progress reports (US \$75,000), as well as for monitoring-related travel (US \$15,738).

Gender policy implementation

33. The gender ratio of participants at the workshops/training sessions and awareness programmes will be determined as a baseline for KIP implementation, to be reassessed and analysed at project closure. The NOU will undertake different steps to maximize the participation of women in KIP activities and to collect gender disaggregated data; include the gender dimension in the selection of beneficiaries for tools and support for certification; encourage women working in the field of refrigeration; and sensitize stakeholders to the gender policy of the Multilateral Fund.

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

34. Stage I of the KIP will be implemented in three tranches. The schedule of HFC phase-down and HCFC phase-out commitments, and of the KIP and HPMP tranches, is presented in annex I to the present document.

35. The main activities of stage III of the HPMP, addressing *inter alia* training in good refrigeration practices for RAC servicing technicians in the safe handling of HCs as refrigerants; strengthening the refrigerant recovery and recycling scheme; certification of technicians, and strengthening vocational training institutes, will be carried out simultaneously with and complemented by analogous activities implemented under stage I of the KIP. The activities to be implemented simultaneously under the HPMP and the KIP are listed in annex II.

36. Because HFC phase-down involves multiple refrigerants, both pure and blended, that had not been previously controlled under the Montreal Protocol, as well as the adoption of flammable and/or toxic, low-GWP alternatives to HFCs, which require particular conditions for use, the KIP will ensure that RAC

¹⁶ Each centre will be provided with six recovery cylinders (30 lbs), two recovery machines, two vacuum pumps, two drills and 8 valves, and safety and protection tools.

technicians receive appropriate training on these technologies in updated courses on good refrigeration practices.

37. The Dominican Republic will continue implementing stage III of the HPMP and promoting the replacement of technologies using HCFC-22 by others with zero and low-GWP. Likewise, these technologies will seek to conserve or improve the energy efficiency of the equipment. Although the KIP includes some projects in the same sectors and subsectors, it will enhance the scope of projects under the HPMP.

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

38. The first funding tranche of stage I of the KIP in the total amount of US \$379,675, as submitted, and adjusted to US \$535,930, as explained in paragraphs from 49 to 54 below will be implemented between January 2024 and December 2025 and include the following activities:

- (a) *Strengthening of the legal framework and inter-institutional coordination:* adjust the Ministerial Order of the HFC quota system to meet commitments post-2029, inter-institutional coordination meetings to conduct a regulatory impact assessment of additional HFC control measures and at least one training sessions to public institutions and the RAC association on the additional legal measures adopted; initiate the development of a national registry of large and medium-sized HFC end users (UNDP) (US \$24,738); strengthening the control mechanisms of the NOU to monitor the HFC imports, including development of an electronic system for registration of HFC quotas and import permits in CO₂-eq tonnes; hire an international expert to deliver the train-the-trainer workshops for customs officers and provide technical support to develop a model course to be used as part of the regular training of officers working at customs check points; update the training manual with the new control measures; carry out a three-day training course on new regulations, identification of refrigerants and prevention of illegal trade for 40 customs and enforcement officers; carry out one-day training courses on HS codes and revised regulations for 50 brokers and importers; strengthen the Customs Registration System on HFCs and implement the 2022 Harmonised Customs Code (UNEP) (US \$55,974); procure and deliver two wide-range portable refrigerant identifiers and spare parts to customs (UNDP) (US \$8,000); develop a diagnosis of needs and priorities for gender mainstreaming and conduct one sensitization and training workshop for main KIP stakeholders (50 participants each) (UNDP) (US \$11,625);
- (b) *Awareness and information dissemination on zero and low-GWP technology:* design and implement a widespread campaign through mass media on country measures to control and reduce HFC emissions and consumption, and alternative technologies, among other things, and organize one workshop for main stakeholders to evaluate the media campaign; and conduct two regional awareness workshops (for 75 end users each) to promote energy-efficient and zero and low-GWP alternatives (UNDP) (US \$21,600);
- (c) *Capacity building for the safe use of low-GWP refrigerants in RAC:* provide training and didactic equipment to one RAC vocational training centre for the use and handling of CO₂, R-290 and R-600a, and provide training and follow-up in the use of the equipment; update the curricula of RAC training courses to include the safe handling of flammable and high-pressure refrigerants, basic notions of electronic controls of RAC equipment, and inverter technology, among other topics (UNDP) (US \$128,940); provision of tool kits¹⁷ to 30 certified technicians to adopt good practices in the safe handling of commercial

¹⁷ Each kit will contain a vacuum pump (12 cubic-feet-per-minute, 2 stages), manifold (for HC, 4-way), hose set with ball valves, precision load scale (150 kg), leak detector, and digital vacuum gauge.

refrigeration equipment or systems operating with hydrocarbon refrigerant gas (UNDP) (US \$57,444); train at least 40 technicians in the new curricula; initiate the certification of labour competency standards to include new categories for handling zero and low-GWP alternatives; and start the development of an electronic registry system of certified technicians to enable end users to contact those technicians for services at their facilities (UNEP) (US \$64,800);

- (d) *Reduction of emissions of HFCs over the refrigerant's life cycle:* conducting 8 training courses of 32 hours (theoretical and hands-on) for 160 MAC technicians, including training materials, guidelines, and posters; identification and selection of interested workshops with the highest yearly frequency of MAC maintenance (UNIDO) (US \$45,500); acquisition and distribution of recovery and recycling equipment and accessories for at least 20 MAC workshops; coordination with the Ministry of Energy and the importers and suppliers of RAC equipment to set up a scheme for enabling the correct removal and handling of refrigerants in equipment retired from service (UNDP) (US \$56,970); identify and install two centres for environmentally sound operations when dismantling RAC appliances; deliver recovery tools to ensure proper recovery, storage and handling of the refrigerant sent to the two dismantling centres; conduct two training workshops for ten workers and servicing technicians each; awareness-raising campaign to promote the service of dismantling equipment, including the design of a brochure explaining the whole programme, with a press and social media campaign (UNDP) (US \$11,618); and
- (e) *Project coordination and monitoring:* prepare the verification report (US \$8,000), national consultants (US \$33,000), and meetings and monitoring-related travel (US \$7,721) ((UNDP) (US \$44,171) and (UNIDO) (US \$ 4,550)).

SECRETARIAT'S COMMENTS AND RECOMMENDATION

COMMENTS

39. The Secretariat reviewed stage I of the KIP for the Dominican Republic in light of the existing policies and guidelines of the Multilateral Fund, including decisions 91/38¹⁸ and 92/37,¹⁹ stage III of the HPMP, and the 2023–2025 business plan of the Multilateral Fund.

HFC consumption levels

40. The country's HFC consumption reached 1,976.76 mt (3,714,281 CO₂-eq tonnes) in 2022, which is 3 per cent below of the HFC baseline level in CO₂-eq tonnes.

41. The 2021 HFC consumption decrease to 1,104.43 mt (2,071,592) was followed by an increase in 2022 to 1,976.76 mt (3,714,281 CO₂-eq tonnes). The Secretariat enquired whether the recorded increase in imports in 2022 was to serve regular refrigerant needs after the reduction in 2021. In response, UNDP provided historical data showing that HFC consumption in the country had grown steadily over the past decade, except for a sharp drop in 2021 caused by the COVID-19 pandemic. On this basis, UNDP considered that the 2022 spike in consumption served regular refrigerant needs. No information was provided on external factors that might have caused the increase. Furthermore, UNDP highlighted that the

¹⁸ In the absence of the cost guidelines for HFC phase-down, to consider HFC individual investment projects and stage I of KIPs on a case-by-case basis, without setting a precedent for the cost guidelines or any future individual investment projects to phase down HFCs and stage I of KIPs.

¹⁹ Level and modalities of funding for HFC phase-down in the refrigeration servicing sector.

HFC survey tested the hypothesis of extraordinary stockpiling, which the results of interviews discarded. An estimation of the 2023 consumption level was not available.

42. The Secretariat considers it important to continue monitoring the country's HFC consumption behaviour over the coming years to determine whether the high imports reported in 2022 are representative of the local market's regular consumption needs or were an isolated occurrence, expecting that by the time the next tranche request is submitted in 2026, the availability of data on longer-term HFC consumption trends will allow more clarity on the issue.

Overarching strategy

43. The challenges linked to reducing HFC demand in the Dominican Republic include consumption growth rates in the RAC sector combined with limited penetration of low-GWP alternatives in major sectors; the high cost of low-GWP alternatives due to low (or no) demand; the lack of sufficient capacity on the part of technicians to safely handle HC, CO₂ and ammonia; and the absence of HFC related policies to support transition to low-GWP alternatives. Stage I of the KIP aims to address these issues and to ensure the country's compliance with the Montreal Protocol limits between 2024 and 2029.

Starting point for sustained reductions in HFC consumption

44. The established baseline for HFC consumption in the Dominican Republic is 3,834,205 CO₂-eq tonnes, as shown in table 3 above. The methodology for calculating the starting point for sustained reductions in HFC consumption is still under discussion. The Secretariat notes that the starting point for the Dominican Republic will be established once the Executive Committee agrees on the above-mentioned methodology. In addition to the deductions from HFC phase-down funded during stage I of the KIP, in line with decision 81/57(b)(ii), 5,734.3 CO₂-eq tonnes (4.01 mt) of HFC-134a and 588.3 CO₂-eq tonnes (0.15 mt) of R-404A associated with the stand-alone project at FARCO will be deducted from the starting point once it has been established.

Policy, regulatory and institutional frameworks

HFC licensing and quota system

45. Decision 87/50(g) requests bilateral and implementing agencies, when submitting stage I of a KIP, to include confirmation that the country has an established and enforceable national system of licensing and quotas for monitoring HFC imports and exports in place, consistent with decision 63/17. Accordingly, the Government of the Dominican Republic has established a licensing and quota system for HFCs, with import quotas to be provided to importers in metric tonnes, with the flexibility to import any HFC as long as the quota is not surpassed. The Secretariat understands that despite the 5 per cent of potentially non-allocated annual quota, the actual system of issuing quotas in metric tonnes would be difficult to monitor in CO₂-eq tonnes. UNDP agreed that together with UNEP, they will be providing guidance to the NOU to adjust the HFC licensing and quota system and to develop online monitoring tools to check the registered HFC-consignments before authorizing new permits to import.

Additional regulatory measures

46. Regarding the regulatory framework, the Secretariat enquired whether the Government was considering regulatory measures to either discourage imports of equipment containing high-GWP HFCs to replace HCFC-22-based equipment or to ban the import of HFC-based domestic refrigerators. UNDP reported that the regulatory impact assessment of additional HFC control measures would evaluate different options before establishing a ban on imports or installations. Furthermore, as the Government is a major buyer nationwide, public procurement initiatives have previously contributed to successfully decreasing the import and installation of HCFC-based equipment and this could be replicated for HFCs.

Technical and cost-related issues

47. The Secretariat and UNDP exchanged views on mechanisms to foster non-HFC technology market penetration. UNDP responded that in stage I of the KIP, efforts are focused on training in HCs and CO₂ for RAC technicians and recovery and recycling in the MAC sector, laying the foundations for the correct adoption of new technologies and reducing emissions. Furthermore, awareness raising among main users will make it clear to technicians and end users that losses of both refrigerant and energy are inconvenient from both the environmental and economic perspective.

Total project cost

48. At the 92nd meeting the Executive Committee agreed on funding at a level of up to US \$5.10/kg for countries with consumption above 360 mt in servicing (decision 92/37(b)(iii)). The average HFC consumption during the baseline years in the Dominican Republic was 1,502.63 mt or 2,752,476 CO₂-eq tonnes.

49. In discussions with UNDP on the figures for estimating reductions and the total cost requested, UNDP detected that the total 2020 consumption initially used in their calculation had been incorrect (1,186.61 mt instead of 1,427.02 mt). Therefore, the 2020-2022 HFC average consumption calculated by UNDP resulted in 1,422.60 mt. UNDP had calculated the funding of stage I of the country's KIP by multiplying 10 per cent of the underestimated average HFC consumption in the baseline years (142.26 mt) by US \$5.10/kg, for a total of US \$725,555, plus 10 per cent for project coordination and monitoring (US \$72,555) (for a total of US \$798,110). However, this methodology does not address all the tonnages needed to achieve a 10 per cent reduction from the baseline, nor the 10 per cent of the HFC consumption portion.

50. The Secretariat calculated the cost of stage I of the KIP using the methodology for converting US \$/kg to US \$/CO₂-eq tonnes in the servicing sector described in annex I of document 92/46.²⁰ With an HFC consumption baseline of 3,834,205 CO₂-eq tonnes, a 10 per cent reduction of the baseline is 383,420 CO₂-eq tonnes. To determine the cost of reducing 383,420 CO₂-eq tonnes in the servicing sector at US \$5.10/kg, the Secretariat converted this consumption to mt using the average GWP of the HFC consumption in the servicing sector in baseline years (HFC consumption in servicing in CO₂-eq tonnes (2,752,476 CO₂-eq tonnes) divided by HFC consumption in servicing in mt (1,502.62 mt). The average GWP obtained was 1,832 and the tonnage required to be phased out to reach the 10 per cent reduction is 209.29 mt instead of 142.26 mt as addressed in the proposal as submitted.

51. The cost of phasing out 209.29 mt at US \$5.10/kg is US \$1,067,379. By adding the PMU costs, following the approach used for HPMPs for non-low-volume-consuming (LVC) countries,²¹ the total cost of stage I of the KIP (without agency support costs) is US \$1,174,117 as presented in table 5.

Table 5. Cost calculation for stage I of the KIP for the Dominican Republic

<i>HFC consumption in the Dominican Republic</i>		
Established HFC consumption baseline	CO ₂ -eq tonnes	3,834,205
Average HFC consumption in the servicing sector in baseline years	Mt	1,502.62
	CO ₂ -eq tonnes	2,752,476
Average GWP of HFC consumption in the servicing sector		1,832

²⁰ Paper on the starting point for sustained aggregate reductions based on discussions at the 91st meeting in the contact group on the cost guidelines for the phase-down of HFCs (decision 91/64(a)).

²¹ The assistance provided under the Multilateral Fund for the implementation of HPMP stages includes, in addition to the funded reductions, a budget for project coordination and monitoring, amounting to between 5 and 10 per cent of the cost of the stage, based on the size and characteristics of the country.

<i>Reduction target stage I of the KIP</i>		
10 per cent reduction from the HFC baseline	CO ₂ -eq tonnes	383,420
	mt	209.29
<i>Cost of stage I of the KIP (servicing sector)</i>		
Agreed cost-effectiveness threshold	US \$/kg	5.1
Cost of reducing 209.29 mt at US \$5.10/kg	US \$	1,067,379
PMU costs (10% of total cost of stage I)	US \$	106,738
Total project cost	US \$	1,174,117

52. The Secretariat considers that this methodology ensures equal treatment for non-LVC countries, as each country will receive US \$5.10/kg to address 10 per cent of its baseline in CO₂-eq tonnes. With this approach, countries would have flexibility to phase out or phase in selected HFCs based on national circumstances, as long as their total HFC consumption in CO₂-eq tonnes is 10 per cent below the baseline by 2029. The tonnage addressed, amounting to 383,420 CO₂-eq tonnes in the case of the Dominican Republic, will be deducted from the starting point once the latter is agreed by the Executive Committee.

53. Upon discussion, UNDP revised its proposal for the Dominican Republic, using the values calculated by the Secretariat to ensure that all tonnage to be reduced in stage I was addressed. While the strategy and the main components of stage I were maintained, the revised proposal expanded the scope of several of the key activities proposed.

54. The main additional activities and changes are as follows: providing technical support to develop a model course to be used as part of the regular training of officers working at customs check points; strengthening the control mechanisms of the NOU to monitor HFC imports, including the development of an electronic system for the registration of HFC quotas and import permits to avoid having annual imports exceed the consumption limits in CO₂-eq tonnes as established by the Kigali Amendment; increasing the number of certified technicians from 100 to 200, the total number of RAC technicians trained from 300 to 600, and the total number of MAC technicians trained from 400 to 600; increasing the number of equipment sets for the MAC workshops from 20 to 50 and for RAC technicians from 30 to 75; providing eight units of R-290 and R-600a didactic training modules instead of four; and increasing the number of visits to beneficiary enterprises and training institutes, and of monitoring meetings with key stakeholders.

55. Stage I of the KIP will include three tranches, as shown in table 6. To cover the country's urgent need to curb the increase in the HFC demand, the Secretariat and UNDP agreed on a tranche distribution of 45.6, 44.4 and 10 per cent, respectively, for the first, second and third tranches.

Table 6. Original and revised tranche distribution for stage II of the HPMP for the Dominican Republic

Funding (US \$)	2023	2024-2025	2026	2027-2028	2029	Total
As submitted						
Lead IA (UNDP)	272,774	0	225,124	0	43,980	541,878
Cooperating IA (UNEP)	77,901	0	85,331	0	24,000	187,232
Cooperating IA (UNIDO)	29,000	0	28,000	0	12,000	69,000
Total as submitted	379,675	0	338,455	0	79,980	798,110
Revised						
Lead IA (UNDP)	365,106	0	368,223	0	60,839	794,168
Cooperating IA (UNEP)	120,774	0	103,272	0	45,903	269,949
Cooperating IA (UNIDO)	50,050	0	49,280	0	10,670	110,000
Total as revised	535,930	0	520,775	0	117,412	1,174,117

Impact on the climate

56. The activities proposed, including efforts to promote low-GWP alternatives, refrigerant recovery and reuse, certification of technicians and good servicing practices, indicate that the implementation of stage I of the KIP will reduce refrigerant emissions into the atmosphere, resulting in climate benefits. A

calculation of the impact on the climate of the activities in the KIP indicates that the Dominican Republic will have achieved an annual emission reduction of 383,420 CO₂-eq tonnes of HFC when the final target in stage I of the KIP is achieved, calculated as the difference between the HFC baseline and the final target set in stage I.

Sustainability of the HFC phase-down and assessment of risks

57. The commitments and activities of stage I of the KIP will be sustained over time with the implementation and strengthening of the licensing and quota system for HFCs; the revision of policies on imports and installation of HFC-based equipment, as well as the provision of training to servicing technicians and MAC workshops and awareness-building to end users; the development of activities and projects aimed at reducing atmospheric emissions of HFCs in use; and continuous monitoring of all implemented activities.

58. Potential risks to the timely implementation of activities include delays in the procurement of equipment and tools, which will be addressed by planning procurement in advance while making use of UNDP's regional long-term agreement to facilitate and speed up the process, and by conducting regular meetings and following up with decision-makers to maintain political will and expedite decisions. The risk of low market availability of alternative technologies will be addressed by searching for suppliers in the course of field visits, fairs, and technical training, to ensure an ample offer of tools and equipment.

Co-financing

59. The Government of the Dominican Republic will provide in-kind co-financing through the provision of personnel, office and storage space, communications, transportation, and administration. The vocational institutions will provide their expertise for the implementation of the labour-competency-based certification scheme for RAC sector technicians and will ensure maintenance of the granted equipment and tools.

2023–2025 business plan of the Multilateral Fund

60. UNDP, UNEP and UNIDO are requesting US \$1,174,117, plus agency support costs, for the implementation of stage I of the KIP for the Dominican Republic. The total value of US \$581,693, including agency support costs, requested for the period of 2023–2025, is US \$214,668 below the amount in the business plan.

Draft Agreement

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

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

RECOMMENDATION

63. The Executive Committee may wish to consider:

- (a) Approving, in principle, stage I of the Kigali HFC implementation plan (KIP) for the Dominican Republic for the period 2023–2029 to reduce HFC consumption by 10 per cent

of the country's baseline in 2029 in the amount of US \$1,274,702, consisting of US \$794,168, plus agency support costs of US \$55,592, for UNDP, US \$269,949, plus agency support costs of US \$35,093, for UNEP, and US \$110,000, plus agency support costs of US \$9,900, for UNIDO as reflected in the schedule contained in annex I of the present document;

- (b) Noting:
- (i) That stage I of the KIP includes an additional US \$144,709, consisting of US \$49,825, plus agency support costs of US \$4,484, for UNDP, and US \$80,000, plus agency support costs of US \$10,400, for the Government of Canada, related to the project approved at the 81st meeting to phase out 4.01 metric tonnes (mt) (5,734.3 CO₂-eq tonnes) of HFC-134a and 0.15 mt (588.3 CO₂-eq tonnes) of R-404A at the commercial refrigerator manufacturing enterprise Fábrica de Refrigeradores Comerciales, SRL (FARCO), completed in November 2020;
 - (ii) That the Government of the Dominican Republic will establish its starting point for sustained aggregate reductions in HFC consumption based on guidance provided by the Executive Committee;
 - (iii) That, once the cost guidelines for HFC phase-down are agreed by the Executive Committee, the reductions from the country's remaining HFC consumption eligible for funding will be determined in line with these guidelines;
 - (iv) That the reductions from the country's remaining HFC consumption eligible for funding referred to in subparagraph (b)(ii) above will be deducted from the starting point referred to in subparagraph (b)(i);
- (c) Approving the first tranche of stage I of the KIP for the Dominican Republic, and the corresponding tranche implementation plan, in the amount of US \$581,693, consisting of US \$365,106, plus agency support costs of US \$25,557, for UNDP, US \$120,774, plus agency support costs of US \$15,701, for UNEP; and US \$50,050, plus agency support costs of US \$4,505, for UNIDO; and
- (d) Requesting the Government of the Dominican Republic, UNDP, UNEP, UNIDO and the Secretariat to finalize the draft Agreement between the Government of the Dominican Republic and the Executive Committee for the reduction in consumption of HFCs, including the information contained in the annex referred to in subparagraphs (a) and (b)(i) above, and to submit it to a future meeting once the KIP Agreement template has been approved by the Executive Committee.

Annex I

**SCHEDULE OF HFC PHASE-DOWN AND HCFC PHASE-OUT COMMITMENTS AND FUNDING TRANCHES
UNDER THE KIGALI HFC IMPLEMENTATION PLAN AND THE HCFC PHASE-OUT MANAGEMENT PLAN FOR
THE DOMINICAN REPUBLIC**

Kigali HFC implementation plan (stage I)

Row	Particulars	2023	2024	2025	2026	2027	2028	2029	Total
1.1	Montreal Protocol reduction schedule of Annex F substances (CO ₂ -eq tonnes)	n/a	3,834,205	3,834,205	3,834,205	3,834,205	3,834,205	3,450,785	n/a
1.2	Maximum allowable total consumption of Annex F substances (CO ₂ -eq tonnes)	n/a	3,834,205	3,834,205	3,834,205	3,834,205	3,834,205	3,450,785	n/a
2.1	Lead IA (UNDP) agreed funding (US \$)	365,106			368,223			60,839	794,168
2.2	Support costs for Lead IA (US \$)	25,557	0.00	0.00	25,776	0.00	0.00	4,259	55,592
2.3	Cooperating IA (UNEP) agreed funding (US \$)	120,774			103,272			45,903	269,949
2.4	Support costs for Cooperating IA (US \$)	15,701	0.00	0.00	13,425	0.00	0.00	5,967	35,093
2.5	Cooperating IA (UNIDO) agreed funding (US \$)	50,050			49,280			10,670	110,000
2.6	Support costs for Cooperating IA (US \$)	4,505	0.00	0.00	4,435	0.00	0.00	960	9,900
3.1	Total agreed funding (US \$)	535,930	0.00	0.00	520,775	0.00	0.00	117,412	1,174,117
3.2	Total support costs (US \$)	45,763	0.00	0.00	43,636	0.00	0.00	11,186	100,585
3.3	Total agreed costs (US \$)	581,693	0.00	0.00	564,411	0.00	0.00	128,598	1,274,702

HCFC phase-out management plan (stage III)

Row	Particulars	2020	2021-2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
1.1	Montreal Protocol reduction schedule of Annex C, Group I substances (ODP tonnes)	33.28	33.28	33.28	33.28	16.64	16.64	16.64	16.64	16.64	0	n/a
1.2	Maximum allowable total consumption of Annex C, Group I substances (ODP tonnes)	30.72	30.72	30.72	30.72	16.64	16.64	16.64	1.28	1.28	0	n/a
2.1	Lead IA (UNDP) agreed funding (US \$)	603,005	0	964,808	0	0	603,005	0	0	241,202	0	2,412,020
2.2	Support costs for Lead IA (US \$)	42,210	0	67,537	0	0	42,210	0	0	16,884	0	168,841
2.3	Cooperating IA (UNEP) agreed funding (US \$)	69,475	0	111,160	0	0	69,475	0	0	27,790	0	277,900
2.4	Support costs for Cooperating IA (US \$)	9,032	0	14,451	0	0	9,032	0	0	3,613	0	36,127
3.1	Total agreed funding (US \$)	672,480	0	1,075,968	0	0	672,480	0	0	268,992	0	2,689,920
3.2	Total support costs (US \$)	51,242	0	81,987	0	0	51,242	0	0	20,497	0	204,968
3.3	Total agreed costs (US \$)	723,722	0	1,157,955	0	0	723,722	0	0	289,489	0	2,894,888

Annex II

**IMPLEMENTATION OF BOTH THE HCFC PHASE-OUT MANAGEMENT PLAN (HPMP)
AND THE KIGALI HFC IMPLEMENTATION PLAN (KIP) IN THE DOMINICAN REPUBLIC**

Area of work	HPMP Stage III Activity	Stage III Cost (US \$)	KIP Stage I Activity	Cost (US \$)	Combined Costs
Strengthening of the legal and institutional framework			Project to strengthen HFC regulatory framework	49,000	49,000
			Project to support the customs and enforcement officers in the HFC trade control	111,949	111,949
			Provision of 4 ODS identifiers to customs	16,000	16,000
			Gender mainstreaming of the Multilateral Fund policy	23,250	23,250
	Initiatives to support the adoption of safety standards/guidelines for flammable refrigerants	70,000		0	70,000
Public awareness	Awareness-building campaigns for end users, technicians, and the general public	57,750	Awareness raising for the general public and consumers	34,000	91,750
			Awareness-raising and training project for end users to promote and adopt new, energy-efficient, and low-GWP technologies	16,000	16,000
Programmes for the HCFC phase-out/HFC phase-down in the RAC sectors	Strengthening the certification system for RAC technicians	207,900	Update the certification standards and promote the certification of labour competences of technicians in the RAC and MAC maintenance sector and certify 200 technicians	68,000	275,900
	Training for application of good refrigeration practices	500,000	Technician training programme with updated curricula	90,000	590,000
			Provision of tools to certified technicians for the adoption of good practices in the safe handling of flammable refrigerants	145,740	145,740
	Strengthening of formal education facilities and technical institutes for training in good refrigeration practices	350,000	Acquisition of didactic modules to vocational training institutes to train on the use of natural refrigerants	238,800	588,800

Area of work	HPMP Stage III Activity	Stage III Cost (US \$)	KIP Stage I Activity	Cost (US \$)	Combined Costs
	Strengthening the refrigerant R&R network	250,000	Technical assistance to recovery refrigerants from inefficient equipment retired from service	48,040	298,040
	Project for the management of natural gases as refrigerants in industrial, commercial, and domestic sectors	509,732			509,732
	Technical assistance for end users and implementation of pilot projects to adopt non-ODP, low-GWP technologies in RAC equipment (CO ₂ and NH ₃)	500,000			500,000
Technical assistance to MAC sector			Training on recovery and recycling and good practices to MAC sector	100,000	100,000
			Provision of recovery and recycling equipment to MAC workshops	126,600	126,600
Project implementation and monitoring	Coordination of the activities and monitoring of the project implementation	244,538	Coordination of the activities and monitoring of the project implementation	106,738	351,276
Grand total		2,689,920		1,174,117	3,864,037