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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Ninety-ninth Meeting
Montreal, 7–11 December 2026
Item 9(d) of the provisional agenda¹

PROJECT PROPOSAL: PAPUA NEW GUINEA

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) Germany Individual consideration

¹ UNEP/OzL.Pro/ExCom/99/1

PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS**Papua New Guinea**

PROJECT TITLE				AGENCY			
Kigali HFC implementation plan (stage I)				Germany (lead)			

ARTICLE 7 DATA (Annex F)	Year: 2025	165.07 mt	327,611 CO ₂ -eq tonnes
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COUNTRY PROGRAMME SECTORAL DATA (CO₂-eq tonnes) AND ACTIVITIES								Year: 2025	
	Aerosol	Foam	Fire-fighting	Air-conditioning (AC) and refrigeration			Servicing	Solvent	Other
				Manufacturing					
				Refrigeration	AC	Other			
HFCs	0	0	0	0	0	0	327,611	0	0
Planned activities agreed (Y/N)							Y		

AVERAGE 2020–2022 HFC CONSUMPTION IN SERVICING	175.97 mt	361,056 CO ₂ -eq tonnes
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BASELINE DATA (CO₂-eq tonnes)	2020	2021	2022	Average 2020–2022
HFC annual consumption	321,231	238,667	523,271	361,056
HCFC baseline (65%)				69,182
HFC baseline				430,238

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		2026*	2027	2028	2029	Total	
Consumption (CO ₂ -eq tonnes)	Montreal Protocol limits	430,238	430,238	430,238	387,214	n/a	
	Maximum allowable	430,238	430,238	430,238	387,214	n/a	
	Reduction from baseline (%)	0.0	0.0	0.0	10.0	n/a	
Project costs requested in principle (US \$)	Germany	Project costs	82,815	0	107,185	0	190,000
		Support costs	10,766	0	13,934	0	24,700
Total amounts recommended in principle (US \$)		Project costs	82,815	0	107,185	0	190,000
		Support costs	10,766	0	13,934	0	24,700
		Total funds	93,581	0	121,119	0	214,700

* Recommended for approval at the present meeting

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

1. The present document contains the following sections:
 - I. Summary of the proposal as submitted
 - II. Background: Status of implementation of the HCFC phase-out management plan and previous HFC-related activities
 - III. HFC consumption overview: HFC consumption levels, trends, and consumption by sector
 - IV. Stage I of the Kigali HFC implementation plan, as submitted: Regulatory framework, phase-down strategy, total stage cost, and implementation plan for the first tranche
 - V. Secretariat's comments, including the agreed cost of activities
 - VI. Recommendation

I. Summary of the proposal as submitted

2. On behalf of the Government of Papua New Guinea, the Government of Germany as the designated implementing agency has submitted a request for stage I of the Kigali HFC implementation plan (KIP), in the amount of US \$190,000, plus agency support costs of US \$24,700, as originally submitted.²
3. The implementation of stage I of the KIP will assist the Government of Papua New Guinea 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 \$71,000, plus agency support costs of US \$9,230 for the Government of Germany, as originally submitted, for the period of January 2027 to December 2028.

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 Papua New Guinea as of August 2026.

Table 1. HPMP implementation status for Papua New Guinea

Particulars	Stage I
Meeting when HPMP was approved	63 rd
Reduction from baseline	100% by 2025
Total stage cost (US \$)	1,250,000
Date of completion (actual/planned)	31 December 2026 ³

² As per the letter of 12 August 2026 from the Conservation and Environment Protection Authority of Papua New Guinea to the Secretariat

³ An extension is being requested at this meeting under the progress report of bilateral cooperation as at 31 December 2025 (UNEP/OzL.Pro/ExCom/99/14)

Status of implementation of previous HFC-related activities

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

Table 2. Previously approved HFC-related activities in Papua New Guinea

Approval meeting	Project title	Implementing agency	Cost (US \$)	Date of completion
75	Survey of ODS alternatives	Germany	40,000	May 2017
80	Enabling activities for HFC phase-down	Germany	95,000	September 2022

III. HFC consumption overviewHFC consumption levels

7. Papua New Guinea only imports HFCs for use in the refrigeration and air-conditioning (RAC) servicing sector. The most consumed substances in 2025 were R-410A (34.0 per cent of total HFC consumption in CO₂-equivalent (CO₂-eq) tonnes), R-404A (28.8 per cent), HFC-134a (25.8 per cent), R-407C (7.9 per cent), and other HFCs (3.5 per cent). Table 3 presents the country's HFC consumption as reported to the Ozone Secretariat under Article 7 of the Montreal Protocol, and the country's HFC baseline.

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

Substance	GWP	2020	2021	2022	2023	2024	2025
Metric tonnes (mt)							
HFC-32	675	8.99	2.35	4.45	5.34	12.07	13.30
HFC-134a	1,430	55.08	59.31	119.22	52.74	61.94	59.20
R-404A	3,921.6	16.78	14.51	31.34	39.93	23.25	24.07
R-407C	1,773.85	14.14	4.04	23.80	4.42	14.24	14.50
R-410A	2,087.5	36.67	24.00	72.11	52.32	51.06	53.40
R-507A	3,985	16.14	7.92	6.59	3.18	0.60	0.60
Other*		3.95	2.86	3.67	0.00	0.05	0.00
Total (mt)		151.75	114.99	261.18	157.93	163.21	165.07
CO₂-eq tonnes							
HFC-32	675	6,065	1,586	3,002	3,605	8,149	8,978
HFC-134a	1,430	78,759	84,812	170,481	75,418	88,574	84,656
R-404A	3,921.6	65,816	56,906	122,915	156,589	91,177	94,393
R-407C	1,773.85	25,082	7,166	42,214	7,840	25,269	25,721
R-410A	2,087.5	76,544	50,094	150,520	109,218	106,588	111,473
R-507A	3,985	64,306	31,541	26,261	12,672	2,391	2,391
Other*		4,659	6,562	7,878	0	101	0
Total (CO₂-eq tonnes)		321,231	238,667	523,271	365,343	322,249	327,611
HFC baseline calculation (CO₂-eq tonnes)							
Average HFC consumption in 2020–2022						361,056	
HCFC baseline (65%)						69,182	
HFC baseline						430,238	

* Including HFC-227ea, HFC-245fa, R-407F, R-417A, R-427A, R-438A and R-452A

Country programme implementation report

8. The sectoral HFC consumption data provided by the Government of Papua New Guinea in its country programme implementation report for 2025 is consistent with the data reported under Article 7 of the Montreal Protocol.

HFC consumption trends

9. HFC consumption decreased from 2020 to 2021 owing to the impact of the COVID-19 pandemic. Imports rose in 2022 as economic activities resumed, with demand for refrigerants driven by recommissioning of air-conditioning (AC) and refrigeration systems that had been idle for extended periods and by repairs to equipment corroded by the island's marine environment. Consumption declined in 2023 as the market stabilized but remained above the 2020 and 2021 levels and increased (in mt) further in 2024 and 2025 in line with the country's needs.

HFC consumption by sector

10. HFCs are mainly consumed for servicing in residential AC (48.7 per cent in mt and 44.1 per cent in CO₂-eq tonnes), followed by commercial refrigeration (30.0 per cent in mt and 38.8 per cent in CO₂-eq tonnes), mobile air-conditioning (MAC) (17.1 per cent in mt and 12.4 per cent in CO₂-eq tonnes), and other subsectors, as shown in tables 4 and 5.

Table 4. 2025 HFC consumption in Papua New Guinea in servicing subsectors (mt)

Sector	HFC-32	HFC-134a	R-404A	R-407C	R-410A	R-507A	Total	Share of total (%)
Domestic refrigeration	0.00	2.34	0.00	0.00	0.00	0.00	2.34	1.4
Commercial refrigeration	0.00	26.16	21.90	0.88	0.00	0.54	49.48	30.0
Industrial refrigeration	0.00	1.74	2.09	0.00	0.00	0.00	3.83	2.3
Transport refrigeration	0.00	0.08	0.08	0.01	0.00	0.06	0.23	0.1
Residential AC	13.30	0.00	0.00	13.61	53.40	0.00	80.31	48.7
Commercial AC	0.00	0.58	0.00	0.00	0.00	0.00	0.58	0.4
MAC	0.00	28.30	0.00	0.00	0.00	0.00	28.30	17.1
Total (mt)	13.30	59.20	24.07	14.50	53.40	0.60	165.07	100

Table 5. 2025 HFC consumption in Papua New Guinea in the servicing subsectors (CO₂-eq tonnes)

Sector	HFC-32	HFC-134a	R-404A	R-407C	R-410A	R-507A	Total	Share of total (%)
Domestic refrigeration	0	3,346	0	0	0	0	3,346	1.0
Commercial refrigeration	0	37,409	85,883	1,561	0	2,152	127,005	38.8
Industrial refrigeration	0	2,488	8,196	0	0	0	10,684	3.3
Transport refrigeration	0	114	314	18	0	239	685	0.2
Residential AC	8,978	0	0	24,142	111,473	0	144,593	44.1
Commercial AC	0	829	0	0	0	0	829	0.3
MAC	0	40,469	0	0	0	0	40,469	12.4
Total (CO₂-eq tonnes)	8,978	84,656	94,393	25,721	111,473	2,391	327,611	100

Refrigeration and air-conditioning servicing sector

11. Papua New Guinea has an estimated 800 to 1,000 RAC technicians. The industry is small, with local companies often handling importation, sales, installation, repair and maintenance. Medium- to large-

scale-equipment owners typically employ one or more in-house technicians to service and maintain their cooling equipment. Given the shortage of local skills, the industry also relies on foreign technicians from neighbouring countries, particularly for larger-scale cooling systems in specialized sectors.

12. Several public and private institutes and colleges offer courses on refrigeration, AC and automotive technologies, and about 10 have partnered with the National Ozone Unit (NOU) on training. Port Moresby Technical College (POMTECH) is the only recognized institute providing accredited courses. Two more institutes have been recently accredited and will be strengthened during stage I of the KIP, which will also increase the institutes available for the certification programme. Currently, 24 technicians have been certified under the HPMP in line with the regulatory framework, and certification activities will continue under the HPMP and be sustained by the country thereafter.

Domestic, commercial, industrial and transport refrigeration servicing

13. Papua New Guinea has approximately 466,000 HFC-based domestic refrigeration units. However, new units are increasingly based on R-600a. A small amount of HFCs is consumed for servicing in existing HFC-134a-based equipment.

14. Commercial refrigeration includes an estimated 33,500 stand-alone, condensing, and centralized units. HFC-134a and R-404A are the most commonly used refrigerants, though hydrocarbons have entered the market for stand-alone systems, but to a lesser extent. The high HFC use in this subsector is linked to larger refrigerant charges and high leakage rates.

15. Industrial refrigeration is a smaller subsector, with about 55 units consuming HFC-134a and R-404A. It includes large cold-room and food-processing applications with relatively high charges. While there are also ammonia systems in place, HFC-based units remain prevalent in this sector.

16. Transport refrigeration sector comprises approximately 60 units, using minimal amounts of HFC-134a, R-404A, R-407A and R-507A to meet the needs. It is expected to grow with the expansion of road infrastructure.

Residential and commercial air-conditioning servicing

17. The residential and commercial AC subsector comprises approximately 160,000 single split and self-contained units, 7,000 multi-split units and 35 commercial AC or chiller systems. R-410A is the dominant refrigerant, while HFC-32-based units are entering the market, and R-290-based units have also been introduced through the incentive scheme under the HPMP.

Mobile air-conditioning servicing

18. The MAC subsector includes an estimated 118,000 vehicles with HFC-based systems, predominantly using HFC-134a. The use of alternative refrigerants such as HFO-1234yf is minimal and confined to newly imported vehicles. Many MAC units are serviced on average two to four times a year, often by roadside garages where leak-proofing cannot be assured. The predominantly older, second-hand vehicle fleet and poor road infrastructure contribute to high leakage rates.

Firefighting

19. The survey identified small-scale use of HFC-based fire suppression systems, mainly HFC-227ea and HFC-125-based, in data centres, hotels and large public buildings. These systems are pre-charged and normally require refilling only after discharge. These substances were not imported in the last five years,

except for a very small quantity (0.4 mt) of HFC-227ea in 2021. The NOU plans to monitor consumption to avoid HFC growth in this sector.

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

Institutional, policy and regulatory framework

20. The Conservation and Environment Protection Authority (CEPA) under the Ministry of Environment, Conservation and Climate Change, is responsible for the implementation of the Montreal Protocol in Papua New Guinea, overseeing ozone-related projects in the country and developing policies and administrative measures. The NOU, located in CEPA, coordinates Montreal Protocol projects and policies, and works closely with other stakeholders including the Climate Change Development Authority, the customs department, the National Institute of Standards and Industrial Technology, the National Energy Authority, the National Apprentice and Trade Testing Board and other government entities, to ensure compliance with sector-specific controls, national legislation and Montreal Protocol obligations.

21. The Environment Act 2000 is the overarching legislation for environmental management in the country. The subsequent regulations include the Environment (Ozone Depleting Substances, Synthetic Greenhouse Gases and Natural Refrigerants) Regulation 2022, which regulates the import, use, handling, and trade of HFCs, ODS and related equipment, establishes import controls and penalties for illegal imports, and mandates technician licensing. The RAC sector is supported by a network of secondary legislation to ensure border control, technical safety, fiscal accountability, and environmental protection. The NOU has access to the customs Automated System for Customs Data (ASYCUDA) system, enabling real-time monitoring of refrigerant and RAC equipment imports.

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

Overarching strategy

22. The Government of Papua New Guinea aims to phase down HFCs as per the phase-down schedule of the Montreal Protocol. Stage I aims to prioritize measures that establish a lasting policy, institutional and technical foundation for future stages. During stage I of the KIP, the Government will focus on strengthening the regulatory and policy framework for controlling HFC imports and use, building capacity of technicians, customs and other relevant stakeholders, preparing the market for transition to low-global warming potential (GWP) alternatives, and enhancing awareness.

Proposed reductions

23. Stage I of the KIP proposes to reach a consumption level of 387,214 CO₂-eq tonnes of HFCs by 2029, reducing Papua New Guinea's HFC consumption by 10 per cent of its baseline. The NOU and the Government of Germany have forecasted HFC consumption in a business-as-usual scenario as shown in table 6 below.

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

	2026	2027	2028	2029
HFC consumption forecast based on average annual growth of approximately 4.4%*	342,026	357,075	372,786	389,189
Montreal Protocol HFC consumption limits	430,238	430,238	430,238	387,214
HFC consumption levels proposed under the KIP	430,238	430,238	430,238	387,214
Proposed reductions from the HFC consumption baseline (%)	0	0	0	10

* Calculated based on economic growth and impact of HCFC import ban

Proposed activities

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

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

Activity	Cost (US \$)	
	Stage I	First tranche
1. Regulatory framework and control mechanism		
1.1 Draft regulatory amendments to introduce a ban on import of HFC-based domestic refrigerators and small stand-alone commercial equipment; ⁴ evaluate options for implementing import quotas on R-410A-based AC units and HFC-based new vehicles; and conduct two stakeholder consultation workshops for 20 participants each	22,000	17,000
1.2 Conduct six trainings for 90 customs officers and forwarding agents (including 20 women) on refrigerant and RAC equipment import controls, harmonized system (HS) codes and ASYCUDA-based monitoring	23,000	7,000
1.3 Revise system to adopt HS codes for HFCs and HFC-based equipment for precise tracking of equipment pre-charged with HFCs	4,000	0
Subtotal component 1	49,000	24,000
2. Capacity-building of RAC and MAC servicing sector		
2.1 Provide tools and equipment ⁵ to two RAC training institutions and one MAC training institution, ⁶ and update MAC training content and curriculum	31,000	16,000
2.2 Conduct training of RAC and MAC trainers on low-GWP technology for 10 trainers each and update the training curriculum with low-GWP alternatives	12,000	6,000
2.3 Conduct six trainings for 60 RAC technicians and four training for 50 MAC technicians on best servicing practices, safe handling of refrigerant, leak prevention and low-GWP technologies	24,000	8,000
Subtotal component 2	67,000	30,000
3. Market transition and awareness		
3.1 Conduct study for 20 medium and large-sized commercial refrigeration systems to identify leakage causes and service deficiencies; develop and disseminate practical best practice guidelines in coordination with the RAC industry association	12,000	0
3.2 Provide incentives for 100 R-290 air conditioners to end users	10,000	0
3.3 Conduct workshops, technical webinars, and awareness campaigns on low-GWP technologies for importers, end users, contractors, installers and RAC technicians	20,000	5,000
Subtotal component 3	42,000	5,000
4. Project coordination and monitoring		
4.1 Monitoring, reporting and technical advisory activities	23,000	8,000
4.2 Travel	9,000	4,000
Subtotal component 4	32,000	12,000
Total	190,000	71,000

⁴ Display cabinet and beverage coolers.

⁵ Manifold gauge, leak detector, recovery unit and recovery cylinder, flaring and swaging kit, vacuum pump and gauge, nitrogen cylinder and regulator, electronic weighting scale, one R-290 monoblock, safety equipment.

⁶ Manifold gauge, leak detector, recovery, recycling and recharge unit, recovery cylinders.

Project implementation, coordination and monitoring

25. The institutional arrangements established under the HPMP will form the basis for implementation, coordination and monitoring of the KIP. Where necessary, consultants or technical experts will be engaged for specific monitoring, data collection, technical or verification assignments. A budget of US \$32,000 is proposed which includes consultants or experts for implementation support, monitoring, reporting and technical advice (US \$23,000) and travel (US \$9,000).

Total cost of stage I of the Kigali HFC implementation plan

26. The budget for stage I has been proposed at US \$190,000. The costs of activities in the RAC 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 in the total amount of US \$71,000, as shown in table 7 above, to be implemented between January 2027 and December 2028. Detailed information on the activities to be implemented under the first tranche, including adjustments and level of funds as agreed, are presented in paragraph 37 below.

SECRETARIAT'S COMMENTS AND RECOMMENDATION

V. Comments

Overarching strategy

28. The HFC consumption target for 2029 is 387,214 CO₂-eq tonnes. While it is 18.2 per cent higher than the 2025 consumption level and 7.2 per cent higher than the 2020-2022 HFC average consumption, it is in line with the projected consumption in 2029. The Secretariat held consultations with the Government of Germany to explore the possibility of achieving additional reductions in HFC consumption. The Government of Germany indicated that the country phased out 100 per cent of HCFCs in 2025 without keeping the servicing tail. The ban on HCFC refrigerants and HCFC-based equipment, implemented in 2025, is expected to progressively increase replacement demand, while economic growth, urbanization, and the planned expansion of electricity access and infrastructure are expected to drive increased demand for cooling. Following consultations with key stakeholders, including RAC associations, the country plans to reduce HFC consumption by 10 per cent of the baseline during stage I of the KIP.

Institutional, policy and regulatory framework

HFC licensing and quota system

29. In line with decision 87/50(g), the Government of Germany has confirmed that Papua New Guinea has an established and enforceable system of licensing and quotas for monitoring HFC imports and exports in place. The quota for 2026 is set at 430,238 CO₂-eq tonnes in accordance with the Montreal Protocol control targets. The quotas are issued in mt. The NOU monitors the consumption through the approval process of each consignment as the NOU has access to the ASYCUDA system.

Technical and cost-related issues

30. The Secretariat enquired about the implementation timeline for the bans on HFC-based domestic refrigerators and small stand-alone commercial refrigeration units proposed under activity 1.1. The Government of Germany explained that the country had agreed in principle to incorporate these measures into its regulations. However, the regulatory amendment process is complex and requires consultations and

approvals, including Cabinet approval, and may be affected by the timing of parliamentary sessions and competing government priorities. If adoption of the amendments is delayed, the NOU will use the equipment-import licensing system to restrict the relevant imports. Accordingly, the prohibition or restriction on imports of HFC-based domestic refrigerators and small stand-alone commercial refrigeration units will take effect on 1 January 2030.

31. In view of the high leakage rates, the Secretariat requested clarification on the scope of the study proposed under activity 3.1 and its expected contribution to reducing refrigerant leakage. The Government of Germany explained that the study will assess 20 commercial refrigeration installations, including refrigerant charge and consumption, leakage rates and likely leakage points, equipment condition, and servicing practices, and will identify practical measures to reduce leakage and improve system performance. The study will generate evidence on the causes and extent of refrigerant leakage in the commercial refrigeration sector and will estimate the potential HFC savings achievable through improved refrigerant management. The findings will be documented and used, in cooperation with the RAC association, to develop and disseminate good-practice guidance for technicians and equipment owners.

32. Under activity 3.2, which proposed an incentive programme for R-290 air conditioners, the Secretariat questioned the need for this demonstration during stage I of the KIP, as similar activity is already being implemented under stage II of the HPMP. Following further discussions and recognizing the need to address high refrigerant leakage rates, the Government of Germany, in consultation with the NOU, revised component 3 to focus on leak management. The revised activity includes the procurement and demonstration of leak detection and monitoring tools⁷ at four commercial refrigeration sites, followed by an analysis of the results and dissemination of lessons learned. The specific tools to be procured and the beneficiary sites will be selected during project implementation based on the findings of the leakage study.

Total project cost

33. At a total cost of US \$190,000, stage I of the KIP for Papua New Guinea will result in a reduction of 43,024 CO₂-eq tonnes from the country's baseline for compliance.

34. While no change was made to the overall budget, component 3 activities were revised to strengthen support for leak management, and the allocation of the first tranche was adjusted. The budget of US \$30,000 under activities 3.2 and 3.3 was reallocated as below:

- (a) Procurement and installation of leak detection and monitoring tools in four sites (US \$20,000); and
- (b) Two awareness workshops on low-GWP technologies and leak management, and dissemination of results, for importers, end users, contractors, installers and RAC technicians (US \$10,000)

35. The agreed budget for stage I and the first tranche is outlined in table 8 below:

Table 8. Agreed budget for stage I and the first tranche

Activity	Original (US \$)		Revised (US \$)	
	Total	First tranche	Total	First tranche
1. Regulatory framework and control mechanism	49,000	24,000	49,000	26,000
2. Capacity-building of RAC and MAC servicing sector	67,000	30,000	67,000	33,000
3. Market transition and awareness (revised to "Leak management and awareness")	42,000	5,000	42,000	12,000

⁷ Portable electronic leak detectors, fixed leak monitoring/detection units, leak sealants, safety tools etc.

Activity	Original (US \$)		Revised (US \$)	
	Total	First tranche	Total	First tranche
4. Project coordination and monitoring	32,000	12,000	32,000	11,815
Total	190,000	71,000	190,000	82,815

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

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

37. The agreed plan of action, at a total cost of US \$82,815, will include the following activities:

- (a) *Regulatory framework and control mechanism*: Initiate drafting regulatory amendments to introduce a ban on import of HFC-based domestic refrigerators and small stand-alone commercial equipment; organize one workshop for 20 key stakeholders for exploring implementing controls through quotas for high-GWP HFC equipment and vehicles; conduct two training programmes for 30 customs officers (including seven women) and forwarding agents on refrigerant and RAC equipment import controls, HS codes and ASYCUDA-based monitoring; and initiate the process of updating the HS codes for the planned adoption of revised HS codes in 2028 (US \$26,000);
- (b) *Capacity-building of RAC and MAC servicing sector*: Update training curricula for MAC sector and conduct one workshop; procure tools for one MAC training institute; conduct one training of trainers for 10 MAC trainers; conduct two trainings for 20 MAC technicians on good service practices and leakage (US \$33,000);
- (c) *Leak management and awareness*: Conduct study of 20 medium and large-sized commercial refrigeration systems to identify leakage causes and service deficiencies (US \$12,000); and
- (d) *Project monitoring support and implementation coordination activities (US \$11,815)*: Including recruitment of experts or consultants (US \$8,000) and travel (US \$3,815).

Co-financing

38. The Government of Papua New Guinea and the local RAC industry provide in-kind support for initiatives related to the Montreal Protocol, including support to trainings, certification and other activities where feasible. External co-financing initiatives for the cooling sector beyond the Multilateral Fund have been limited due to the size of the market; however, efforts will be made to identify potential sources of co-financing for the implementation of stage I of the KIP.

2026–2028 business plan of the Multilateral Fund

39. The Government of Germany is requesting US \$190,000, plus agency support costs, for the implementation of stage I of the KIP for Papua New Guinea. The total value of US \$214,700, including agency support costs, requested for the period of 2026–2028, is US \$134,700 above the amount in the business plan.

Gender policy implementation

40. In line with decisions 84/92, 90/48 and 92/40, the Government of Papua New Guinea has incorporated the policy into the project preparation and formulation for stage I of the KIP. During the project preparation, women from regional centres were specifically selected to support their inclusion and participation in the KIP development process, and of the 10 consultants recruited, six were women. Under

the KIP, women will have opportunities to benefit from training and skills development activities and will be engaged as service providers, where feasible. Female trainees and technicians will be supported through access to tools, apprenticeships, work placements or mentoring, and training opportunities will also be provided to women trainers, where possible.

Sustainability of the HFC phase-down and assessment of risks

41. Potential risks to the successful implementation and sustainability of stage I of the KIP relate to the availability and uptake of low-GWP alternatives, safety concerns associated with flammable refrigerants, high leakage in the commercial refrigeration sector, growth in cooling demand, and capacity constraints among technicians, training institutions and enterprises. These risks will be addressed through phased regulatory measures for equipment where low-GWP alternatives are available; strengthened capacity at RAC and MAC training institutions and among trainers and technicians on low-GWP and flammable refrigerants; improved leak management through studies and demonstrations; awareness activities; and engagement with the RAC association and industry. Sustainability of the training activities will be supported by the involvement of national training institutions. Under the HPMP, the Government also plans, where feasible, to use differential levies to steer the RAC market towards low-GWP technologies.

Impact on the climate

42. The activities proposed, including efforts to promote low-GWP technologies, strengthen refrigerant management practices, reduce leakage in commercial refrigeration systems, improve servicing practices, and support training on alternatives indicate that the implementation of stage I of the KIP will reduce refrigerant emissions in the atmosphere, resulting in climate benefits. A calculation of the impact on the climate of the activities in the KIP indicates that by 2029, Papua New Guinea will have reduced its HFC emissions by approximately 43,024 CO₂-eq tonnes, calculated as the difference between the HFC baseline for compliance and the 2029 target, assuming that all consumed HFCs would have eventually been emitted.

Draft Agreement

43. A draft Agreement between the Government of Papua New Guinea 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

44. The completion of the HPMP for Papua New Guinea is planned for 30 June 2027, resulting in simultaneous implementation of the HPMP and the KIP for approximately six months. During that time, the KIP will focus on drafting regulatory amendments for HFC control and monitoring, strengthening quota system for HFCs; updating training curricula for MAC sector; conducting training of trainers for MAC trainers; and initiating a study for leak management. Those activities were not undertaken under the HPMP.

VI. Recommendation

45. The Executive Committee may wish to consider:

- (a) Approving, in principle, stage I of the Kigali HFC implementation plan (KIP) for Papua New Guinea for the period 2026–2029 to reduce HFC consumption by 10 per cent of the country's baseline, in the amount of US \$190,000, plus agency support costs of US \$24,700, for the Government of Germany;
- (b) Noting that the Government of Papua New Guinea will put in place prohibition or restrictions on imports of HFC-based domestic refrigerators and small stand-alone commercial refrigeration equipment by 1 January 2030; and

- (c) Approving:
- (i) The draft Agreement between the Government of Papua New Guinea and the Executive Committee for the reduction in consumption of HFCs in accordance with stage I of the KIP, contained in annex I to the present document; and
 - (ii) The first tranche of stage I of the KIP for Papua New Guinea and the corresponding tranche implementation plan, in the amount of US \$82,815, plus agency support costs of US \$10,766, for the Government of Germany.

Annex I

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

Purpose

1. This Agreement represents the understanding of the Government of Papua New Guinea (“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 387,214 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. The Government of Germany has agreed to be the lead implementing agency (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 evaluation work programme of the Multilateral Fund or under the evaluation programme of the Lead 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 role of the Lead IA is contained in Appendix 6-A. The Executive Committee agrees, in principle, to provide the Lead IA with the fees set out in row 2.2 of Appendix 2-A.

Non-compliance with the Targets in the Agreement

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

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

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

Date of completion

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

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

Validity

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

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

APPENDICES

APPENDIX 1-A: THE SUBSTANCES

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

APPENDIX 2-A: THE TARGETS, AND FUNDING

Row	Particulars		2026	2027	2028	2029	Total
1.1	Montreal Protocol reduction schedule of Annex F substances	%	freeze	freeze	freeze	10	n/a
		CO ₂ -eq tonnes	430,238	430,238	430,238	387,214	n/a
1.2	Maximum allowable total consumption of Annex F substances	Reduction in %	0.0	0.0	0.0	10.0	n/a
		CO ₂ -eq tonnes	430,238	430,238	430,238	387,214	n/a
2.1	Lead IA (Germany) agreed funding (US \$)		82,815	0	107,185	0	190,000
2.2	Support costs for Lead IA (US \$)		10,766	0	13,934	0	24,700
3.1	Total agreed funding (US \$)		82,815	0	107,185	0	190,000
3.2	Total support costs (US \$)		10,766	0	13,934	0	24,700
3.3	Total agreed costs (US \$)		93,581	0	121,119	0	214,700

APPENDIX 3-A: FUNDING APPROVAL SCHEDULE

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

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

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

- (a) A narrative report, with data provided by tranche, describing the progress achieved since the previous report, reflecting the situation of the Country in regard to phase-down of Annex F substances, how the different activities contribute to it, and how they relate to each other, including, where applicable, activities related to energy efficiency approved in the context of HFC phase-down pursuant to decision 91/65. The report should include the amount of Annex F substances consumption reduced as a direct result of the implementation

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

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

APPENDIX 5-A: MONITORING INSTITUTIONS AND ROLES

1. The National Ozone Unit (NOU) under the Conservation and Environment Protection Authority in the Country is responsible for monitoring the progress of implementation of activities in the Plan.
2. The monitoring will be conducted during the implementation of the Plan to ensure efficient and effective implementation; overall project coordination; stakeholder engagement and coordination; smooth implementation of activities planned under various tranches; delivery of trainings and other expected outcomes; and facilitation of the HFC consumption verification undertaken by the Lead IA.
3. The Conservation and Environment Protection Authority 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;
- (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) 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, the allocation of the reductions to the different budget items and to the funding of the Lead IA;
- (k) Ensuring that disbursements made to the Country are based on the use of the indicators;
- (l) Providing assistance with the policy, management and technical support when required; and
- (m) 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 7-A: REDUCTIONS IN FUNDING FOR FAILURE TO COMPLY WITH THE TARGETS IN THE AGREEMENT

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