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

PROJECT PROPOSAL: OMAN

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

Phase-down

- Kigali HFC implementation plan (stage I, first tranche) UNEP and UNIDO Individual consideration

¹ UNEP/OzL.Pro/ExCom/98/1

PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS**Oman**

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

ARTICLE 7 DATA (Annex F)	Year: 2025	932.19 mt	1,822,104 CO ₂ -eq tonnes
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COUNTRY PROGRAMME SECTORAL DATA (CO ₂ -eq tonnes) AND ACTIVITIES								Year:	2025
	Aerosol	Foam	Fire-fighting	Air-conditioning (AC) and refrigeration			Servicing	Solvent	Other
				Manufacturing					
				Refrigeration	AC	Other			
HFCs		0	10,484				1,811,618		
Planned activities agreed (Y/N)		N	N				Y		

AVERAGE 2023–2025 HFC CONSUMPTION IN SERVICING	1,091.90 mt	2,110,888 CO ₂ -eq tonnes
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BASELINE CONSUMPTION DATA (CO ₂ -eq tonnes)	2023	2024	2025	Average 2023-2025*
HFC annual consumption	2,300,559	2,275,115	1,822,104	2,132,593
HCFC baseline (65%)				655,323
HFC baseline (“interim”)				2,787,916

* As a Group 2 Article 5 party, the HFC baseline of Oman is determined using the average consumption from 2024 to 2026; for the current submission, the most recent three years (2023-2025) of data are being used in the “interim”.

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

PROJECT DATA AS AGREED			2026*	2027	2028	2029	2030	2031	2032	Total
Consumption (CO ₂ -eq tonnes)	Montreal Protocol limits		n/a	n/a	2,787,916	2,787,916	2,787,916	2,787,916	2,509,124	n/a
	Maximum allowable		2,787,916	2,787,916	2,787,916	2,787,916	2,557,216	2,557,216	2,326,516	n/a
	Reduction from baseline (%)		0.0	0.0	0.0	0.0	8.3	8.3	16.5	n/a
Project costs requested in principle (US \$)	UNEP	Project costs	470,360	0	0	389,957	0	165,632	0	1,025,949
		Support costs	56,324	0	0	46,696	0	19,834	0	122,854
	UNIDO	Project costs	195,000	0	0	174,000	0	0	0	369,000
		Support costs	13,650	0	0	12,180	0	0	0	25,830
Total amounts recommended in principle (US \$)		Project costs	665,360	0	0	563,957	0	165,632	0	1,394,949
		Support costs	69,974	0	0	58,876	0	19,834	0	148,684
		Total funds	735,334	0	0	622,833	0	185,466	0	1,543,633

* Recommended for approval at the present meeting

Reduction from remaining consumption eligible for funding in stage I (CO ₂ -eq tonnes)	461,400
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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 Oman, UNEP as the lead implementing agency has submitted a request for stage I of the Kigali HFC implementation plan (KIP), at a total cost of US \$1,560,139, consisting of US \$1,040,819, plus agency support costs of US \$124,490, for UNEP and US \$369,000, plus agency support costs of US \$25,830, for UNIDO, as originally submitted. The submission includes 2025 HFC consumption data in line with decision 97/64 and a revised "interim" baseline.²

3. As an Article 5, Group 2 country, Oman's HFC baseline will be calculated based on the average consumption from 2024 to 2026. However, since this data is not yet available, the Government proposes using HFC consumption data from the most recent three-year period (2023–2025) to establish an "interim" baseline for setting stage I targets which is calculated as 2,787,916 CO₂-eq tonnes. "Interim" baseline is used only for the purposes of this project by the Government of Oman and does not constitute a new concept under the Kigali Amendment. The implementation of stage I of the KIP will assist the Government of Oman in meeting the target of 16.55 per cent reduction from its "interim" baseline by 1 January 2032.

4. The first tranche of stage I of the KIP being requested at this meeting amounts to US \$745,200, consisting of US \$479,230, plus agency support costs of US \$57,320, for UNEP and US \$195,000, plus agency support costs of US \$13,650, for UNIDO, as originally submitted, for the period of July 2026 to December 2029.

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 Oman as of March 2026.

² The request for stage I of the KIP for Oman was originally submitted to the 97th meeting. Following discussions regarding the use of an "interim" baseline, the Executive Committee decided to note with appreciation the submission, which was the first KIP submitted by an Article 5, group 2 country; and to defer consideration of the project to the 98th meeting of the Executive Committee, for further discussion in light of additional consumption data, particularly for the year 2025. The revised "interim" baseline was calculated based on 2023 to 2025 HFC consumption.

Table 1. HPMP implementation status for Oman

	Stage I	Stage II	Stage III
Meeting when HPMP was approved or updated	65 th	75 th	88 th
Reduction from baseline	10% by 2015	35% by 2020	100% by 2030
Total stage cost (US \$)	434,120	485,000	1,406,836
Date of completion (actual or planned)	31 December 2017	31 December 2021	31 December 2031

Status of implementation of previous HFC-related activities

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

Table 2. Previously approved HFC-related activities in Oman

Approval meeting	Project title	Implementing agency	Cost (US \$)	Date of completion
74 th	Survey of ODS alternatives	UNIDO	110,000	July 2018
81 st	Enabling activities for HFC phase-down	UNEP	150,000	December 2021

III. HFC consumption overview

HFC consumption levels

7. Oman only imports (does not produce) HFCs for use in the refrigeration and air-conditioning (RAC) servicing, fire-fighting, and foam sectors. The most consumed substances in 2025 were HFC-134a (42.0 per cent of total HFC consumption in CO₂-equivalent (CO₂-eq) tonnes), R-404A (32.0 per cent), R-410A (21.9 per cent), and other HFCs (4.1 per cent). Table 3 presents the country's HFC consumption as reported to the Ozone Secretariat under Article 7 of the Montreal Protocol and the country's "interim" HFC baseline.

Table 3. 2021–2025 HFC consumption and baseline for Oman (Article 7 data)

HFC	GWP	2021	2022	2023	2024	2025
Metric tonnes (mt)						
HFC-32	675	0.00	4.28	8.93	4.28	34.42
HFC-134a	1,430	1,105.44	702.96	751.84	661.31	534.87
HFC-152a	124	74.20	17.01	22.00	0.00	0.00
HFC-227ea	3,220	12.41	9.85	10.74	5.37	3.26
R-404A	3,921.60	68.23	129.55	151.75	166.76	148.60
R-407C	1,773.85	23.44	36.51	30.65	34.89	15.68
R-410A	2,087.50	115.82	225.12	251.26	276.05	191.45
Others*		0.78	0.94	3.18	5.89	3.92
Total (mt)		1,400.32	1,126.21	1,230.35	1,154.54	932.19
CO₂-eq tonnes						
HFC-32	675	0	2,889	6,028	2,886	23,233
HFC-134a	1,430	1,580,785	1,005,227	1,075,131	945,676	764,860
HFC-152a	124	9,201	2,109	2,728	0	0
HFC-227ea	3,220	39,951	31,720	34,583	17,291	10,484
R-404A	3,921.60	267,555	508,047	595,103	653,950	582,750
R-407C	1,773.85	41,581	64,761	54,369	61,897	27,816
R-410A	2,087.50	241,781	469,946	524,505	576,250	399,658
Others*		4,937	4,686	8,113	17,165	13,303
Total (CO₂-eq tonnes)		2,185,789	2,089,387	2,300,559	2,275,115	1,822,104

HFC “interim” baseline calculation (CO ₂ -eq tonnes)	
HFC average consumption in 2023-2025	2,132,593
HCFC baseline (65%)	655,323
“Interim” HFC baseline	2,787,916

* Including HFC-236fa, HFC-245fa, R-407A, R-407F, R-448A, R-449A, R-452A, R-507A, R-508B, and R-515B.

Country programme implementation report

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

HFC consumption trends

9. HFC consumption peaked in 2023 and has steadily declined from 2023 to 2025. In 2025, HFC consumption decreased by 20 per cent compared to 2024. This decline is primarily driven by reduced use of refrigerants with a high global-warming potential (GWP) such as HFC-134a, R-410A, and R-404A, alongside increased adoption of lower-GWP alternatives like HFC-32 and low-GWP refrigerants. Additional contributing factors include lower leakage rates in industrial and large commercial refrigeration equipment, resulting from improved servicing practices, as well as regional instability that disrupted supply chains, construction, and tourism activities.

HFC consumption by sector

10. HFCs are mainly consumed for servicing RAC equipment (93.6 per cent in mt and 91.4 per cent in CO₂-eq tonnes) and charging equipment assembled and installed onsite (5.1 per cent in mt and 7.6 per cent in CO₂-eq tonnes), with a small consumption in extruded polystyrene (XPS) foam (0.7 per cent in mt and 0.0 per cent in CO₂-eq tonnes) and firefighting equipment manufacturing (0.6 per cent in mt and 1.0 per cent in CO₂-eq tonnes), as shown in table 4.

Table 4. 2021–2025 HFC consumption in Oman by sector

Sector	2021	2022	2023	2024	2025	Average 2023-2025	Share of total (%)
Metric tonnes							
XPS foam manufacturing	74.20	17.01	22.00	0.00	0.00	7.33	0.7
Firefighting manufacturing	12.41	9.85	10.74	5.37	3.26	6.46	0.6
Subtotal manufacturing	86.61	26.86	32.74	5.37	3.26	13.79	1.2
Servicing	1,260.15	1,043.24	1,137.77	1,082.53	885.42	1,035.24	93.6
Assembly and installation	53.56	56.12	59.84	66.64	43.51	56.66	5.1
Total (mt)	1,400.32	1,126.22	1,230.35	1,154.54	932.19	1,105.69	100.0
CO₂-eq tonnes							
XPS foam manufacturing	9,201	2,109	2,728	0	0	909	0.0
Firefighting manufacturing	39,960	31,720	34,583	17,291	10,497	20,790	1.0
Subtotal manufacturing	49,161	33,829	37,311	17,291	10,497	21,700	1.0
Servicing	1,983,616	1,896,366	2,095,639	2,075,477	1,674,490	1,948,535	91.4
Assembly and installation	153,024	159,192	167,610	182,350	137,117	162,359	7.6
Total (CO₂-eq tonnes)	2,185,801	2,089,387	2,300,560	2,275,118	1,822,104	2,132,594	100.0

11. Sectoral consumption data from 2025 shows that HFC consumption is dominated by HFC-134a in the mobile air-conditioning (MAC) subsector (53.3 per cent in mt and 39.0 per cent in CO₂-eq tonnes), followed by consumption of R-410A and HFC-32 in residential air-conditioning (AC) servicing (23.2 per cent in mt and 22.1 per cent in CO₂-eq tonnes) and R-404A in large commercial refrigeration servicing (11.6 per cent in mt and 23.1 per cent in CO₂-eq tonnes). A breakdown of consumption by subsector and by substances is shown in tables 5 and 6.

Table 5. 2025 HFC consumption in Oman by sector (mt)

Sector	HFC-32	HFC-134a	HFC-227ea	R-404A	R-407C	R-410A	Others*	Total	Share of total (%)
Manufacturing									
XPS foam**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Firefighting***	0.00	0.00	3.26	0.00	0.00	0.00	0.00	3.26	0.3
Subtotal manufacturing	0.00	0.00	3.26	0.00	0.00	0.00	0.00	3.26	0.3
Refrigeration and AC servicing									
Refrigeration subsectors									
Domestic	0.00	32.09	0.00	0.00	0.00	0.00	0.00	32.09	3.4
Commercial (small)	0.00	4.38	0.00	0.00	0.00	0.00	0.00	4.38	0.5
Commercial (large)	0.00	0.00	0.00	106.80	0.00	0.00	0.97	107.77	11.6
Industrial	0.00	0.00	0.00	5.84	0.00	0.00	2.61	8.45	0.9
Transport	0.00	0.00	0.00	9.19	0.00	0.00	0.00	9.19	1.0
Air-conditioning subsectors									
Residential	34.42	0.00	0.00	0.00	0.00	181.91	0.00	216.33	23.2
Commercial and industrial	0.00	0.95	0.00	0.00	6.08	3.31	0.00	10.34	1.1
Mobile	0.00	496.86	0.00	0.00	0.00	0.00	0.00	496.86	53.3
Subtotal servicing	34.42	534.29	0.00	121.83	6.08	185.22	3.58	885.42	95.0
Local installation and assembly									
Commercial and industrial AC	0.00	0.58	0.00	0.00	9.60	6.23	0.00	16.41	1.8
Commercial refrigeration (large)	0.00	0.00	0.00	23.53	0.00	0.00	0.02	23.55	2.5
Industrial refrigeration	0.00	0.00	0.00	1.02	0.00	0.00	0.31	1.33	0.1
Transport refrigeration	0.00	0.00	0.00	2.22	0.00	0.00	0.00	2.22	0.2
Subtotal local installation and assembly	0.00	0.58	0.00	26.77	9.60	6.23	0.33	43.51	4.7
Total	34.42	534.87	3.26	148.60	15.68	191.45	3.91	932.19	100.0

* Including R-407F and R-449A (large commercial refrigeration), and R-507A and R-515A (industrial refrigeration).

** Consumption of HFC-152a in foam manufacturing sector was reported in 2023, but not in 2024 and 2025.

*** Industries using HFC-227ea and HFC-236fa were identified within the firefighting equipment manufacturing and refilling sector, but detailed information is not available.

Table 6. 2025 HFC consumption in Oman by sector (CO₂-eq tonnes)

Sector	HFC-32	HFC-134a	HFC-227ea	R-404A	R-407C	R-410A	Others	Total	Share of total (%)
Manufacturing									
XPS foam	0	0	0	0	0	0	0	0	0.0
Firefighting	0	0	10,497	0	0	0	0	10,497	0.6
Subtotal manufacturing	0	0	10,497	0	0	0	0	10,497	0.6
Refrigeration and AC servicing									
Refrigeration subsectors									
Domestic	0	45,892	0	0	0	0	0	45,892	2.5
Commercial (small)	0	6,265	0	0	0	0	0	6,265	0.3
Commercial (large)	0	0	0	418,827	0	0	1,658	420,485	23.1
Industrial	0	0	0	22,902	0	0	10,366	33,269	1.8
Transport	0	0	0	36,040	0	0	0	36,040	2.0
Air-conditioning subsectors									
Residential	23,233	0	0	0	0	379,737	0	402,970	22.1
Commercial and industrial	0	1,361	0	0	10,787	6,910	0	19,058	1.0
Mobile	0	710,513	0	0	0	0	0	710,513	39.0
Subtotal servicing	23,233	764,030	0	477,769	10,787	386,647	12,025	1,674,490	91.9
Local installation and assembly									
Commercial and industrial AC	0	829	0	0	17,029	13,005	0	30,863	1.7

Sector	HFC-32	HFC-134a	HFC-227ea	R-404A	R-407C	R-410A	Others	Total	Share of total (%)
Commercial refrigeration (large)	0	0	0	92,275	0	0	36	92,312	5.1
Industrial refrigeration	0	0	0	4,000	0	0	1,235	5,235	0.3
Transport refrigeration	0	0	0	8,706	0	0	0	8,706	0.5
<i>Subtotal local installation and assembly</i>	<i>0</i>	<i>829</i>	<i>0</i>	<i>104,981</i>	<i>17,029</i>	<i>13,005</i>	<i>1,272</i>	<i>137,117</i>	<i>7.5</i>
Total	23,233	764,860	10,497	582,750	27,816	399,652	13,297	1,822,104	100.0

Manufacturing sectors

12. Based on the 2023-2025 CP data reporting, HFCs are consumed in small amounts in manufacturing XPS foam and firefighting equipment. Although HFC consumption in the foam sector was reported as zero in 2024 and 2025, the country reported 22.00 mt of HFC-152a consumption in 2023, accounting for 1.8 per cent in mt and 0.1 per cent in CO₂-eq tonnes in the same year. HFC-227ea and HFC-236fa were used for manufacturing and refilling firefighting equipment (0.3 per cent of 2025 consumption in mt and 0.6 per cent in CO₂-eq tonnes). During the HCFC phase-out, two foam sandwich panel manufacturing enterprises were assisted; one was converted to water blown technology and another one (Al-Khaleej Insulation Co LLC) was converted from HCFCs to HFC-152a and R-600a in XPS board manufacturing. Currently, comprehensive data on the foam and firefighting sectors are not available due to the unavailability of detailed industry-specific information. However, the proposal indicated that the collection of relevant industry data, including enterprise profiles, manufacturing processes, HFC consumption, and baseline equipment will be conducted in stage I to formulate the sectoral strategy for HFC phase-out in stage II.

Refrigeration and air-conditioning servicing sector

13. There are 6,699 registered technicians (no women) and 3,593 workshops consuming HFCs in Oman. In the implementation of the HPMP, 2,000 technicians have been trained in good servicing practices and leakage reduction. Oman has five professional training institutes that provide training to technicians, and four refrigerant recovery and recycling centres. There is no industrial association for the RAC service sector in Oman. During implementation of the HPMP, the national ozone unit (NOU) engaged RAC servicing enterprises in the implementation of the activities as well as in the development of policies and control measures through stakeholder consultations and the joint organization of activities.

Domestic, commercial, industrial and transport refrigeration servicing

14. The refrigeration servicing subsectors using HFCs in Oman include domestic, commercial, industrial and transport refrigeration. The consumption attributed to servicing in the refrigeration subsectors in 2025 was approximately 17 per cent in mt and 30 per cent in CO₂-eq tonnes, making this the second highest HFC consuming sector. R-404A is the primary HFC used in refrigeration servicing, followed by HFC-134a, with some limited use of R-507A, R-407F, R-407A, R-449A, R-452A, and R-515A. There is no use of R-600a in refrigeration servicing.

Residential and commercial air-conditioning servicing

15. The stationary AC servicing subsector using HFCs in Oman encompasses residential, commercial and industrial AC, and chillers. In 2025, HFCs used for servicing these AC subsectors accounted for approximately 24 per cent of consumption in mt and 23 per cent in CO₂-eq tonnes. R-410A is the primary HFC used in residential AC, followed by HFC-32. Commercial and industrial AC systems primarily use R-407C and R-410A, with small amounts of HFC-134a. Other HFCs used in the AC sector have included HFC-245fa and HFC-236fa, which in recent years accounted for roughly 1 per cent of total consumption

in CO₂-eq tonnes and are mainly used to service chillers, though were not imported in 2025; there is no use of R-290 in the sector.

Mobile air-conditioning servicing

16. HFC-134a is the only HFC used in the MAC servicing sector. HFC-134a consumption in MAC servicing in 2025 accounts for approximately 53 per cent in mt and 39 per cent in CO₂-eq tonnes and is the highest HFC consuming sector in Oman. As this sector was not addressed under previous phase-out programmes, stage I of the KIP will include specific servicing sector activities to target it.

Local installation and assembly subsector

17. The local installation and assembly subsector includes commercial and industrial AC and commercial, industrial, and transport refrigeration equipment. Consumption in this sector for 2025 accounts for approximately 5 per cent in mt and 8 per cent in CO₂-eq tonnes. R-404A is the main HFC used in the sector, followed by R-407C and R-410A, with some small use of other substances (HFC-134a, R-448A, R-407F, R-507A, R407A and R-452A). The country plans to collect more detailed information on the assemblers and installers in the sector during implementation of stage I of the KIP, and activities have been planned to reduce the HFC consumption in the sector.

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

Institutional, policy and regulatory framework

18. The NOU operates within the Climate Change Department on behalf of the Environment Authority (EPA), previously the Ministry of Environment and Climate Affairs, and is the national office that coordinates the implementation of all ODS phase-out and HFC phase-down activities in Oman. Several further Government authorities and ministries are also involved in the control and management of refrigerants.

19. Hazardous substances such as HFCs are regulated under the Law on Protection of the Environment and Prevention of Pollution, and administrative decision 50/2023 was introduced in 2023 to cover the registration, permitting, labelling, packaging, and fees for handling these substances. In line with Oman's ratification of the Kigali Amendment (November 2024), a legislative and regulatory framework was established to control the consumption of HFCs and HFC blends, with specific regulations being developed under stage I of the KIP. A national ozone committee was formed in 2012, headed by the NOU, with members comprising the Ministry of Commerce and Industry, the Ministry of Agriculture and Fisheries, Muscat Municipality, the Royal Oman Police, and other bodies. Ozone Layer Protection Regulations were issued by ministerial decree and amended to correspond to the requirements of the Montreal Protocol and to govern the climate affairs licensing for establishments engaged in the maintenance, repair, and service of RAC and for handling refrigerants.

20. Oman has an operational licensing system for the import and export of controlled substances that has been updated to include HFCs and HFC blends, with amendments to the quota system in development. A mandatory leak detection policy was developed and a ban on the import of second hand HCFC-based equipment was imposed. Customs codes have been updated to align with the 2022 update of the Harmonized System (HS) codes. Projects that relate to the emission of greenhouse gases require permits under the 2016 Regulations for the Management of Climate Affairs, and the Center for Environmental Assessment and Permits, established in 2017, is responsible for the issuance of environmental permits.

21. The Ministry of Social Affairs, Labor and Vocational Training and UNEP developed the RAC technician certification framework, and national standards were introduced that include identification labels, energy efficiency in low-voltage equipment, and standard operating procedures (SOPs) for

refrigerant handling and for the operation of the quota and licensing system. Minimum Energy Performance Standards (MEPS) and labelling became mandatory in 2019 for AC appliances and equipment with a cooling capacity of up to 20 kW; similar regulations are being developed for refrigeration equipment.

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

Overarching strategy

22. The Government of Oman proposes an 85 per cent reduction in HFC consumption by 2047 in accordance with the Montreal Protocol phase-down schedule. Under stage I, the country proposes to reduce HFC consumption by 16.55 per cent from the “interim” HFC baseline to enable the country to meet the 10 per cent reduction from the baseline, once established under the Montreal Protocol, by 2032. The reduction targets for subsequent stages include 20 per cent for 2037, 30 per cent for 2042 and the final 85 per cent for 2047 from the established baseline.

23. Oman is classified as an Article 5, Group 2 country, with 2024 to 2026 designated as its baseline years. As the official HFC baseline has not yet been established, the average consumption from 2023–2025 is being used for calculation of an “interim” baseline. Once data for 2026 becomes available, the “interim” baseline will be updated based on the reported consumption for the 2024–2026 period.

24. Stage I of the KIP will target HFC reductions in the servicing and local installation and assembly sectors. This prioritization is based on HFC consumption distribution and a thorough evaluation of alternative technologies, focusing on their availability, cost-effectiveness, sustainability, and environmental benefits. Addressing consumption in the manufacturing sector is deferred to stage II, contingent upon obtaining complete industrial data and identifying viable substitutes.

25. For the local installation and assembly sector, stage I of the KIP will focus on reducing the use of HFC-134a and R-410A in commercial and industrial AC applications. Other substances used in this sector will be addressed in subsequent stages.

26. The Government will strengthen the HFC quota system and develop its corresponding SOPs. Furthermore, it will establish a comprehensive legal and regulatory framework to prevent the illegal trade of HFCs, implement bans on the import of HFC-based new and second-hand equipment as well as non-refillable containers, and develop standards and SOPs for the safe transport and storage of HFCs and their alternatives. These efforts, combined with the promotion of good servicing practices and refrigerant recycling, recovery and reclamation (RRR), are expected to enable the country to achieve its stage I targets.

Proposed reductions

27. Under a business-as-usual scenario, HFC consumption is projected to grow at an annual rate of 6 per cent from 2026 to 2032, based on the country’s population growth rate and economic development (gross domestic product), except for the year 2031, which is expected to grow by only 3.8 per cent due to the absence of HCFC conversion to HFCs. The detailed forecast for stage I is provided in table 7.

Table 7. HFC consumption forecast under the unconstrained scenario, Montreal Protocol limits, and proposed HFC reductions under stage I (CO₂-eq tonnes)

	2026	2027	2028	2029	2030	2031	2032
HFC consumption forecast at 6% annual growth rate*	1,980,183	2,096,081	2,218,933	2,349,156	2,438,644	2,584,962	2,740,060
Montreal Protocol HFC consumption limits (“interim”)	n/a	n/a	2,787,916	2,787,916	2,787,916	2,787,916	2,509,124
HFC consumption levels proposed under the KIP	2,787,916	2,787,916	2,787,916	2,787,916	2,557,216	2,557,216	2,326,516

	2026	2027	2028	2029	2030	2031	2032
Proposed reductions from the “interim” HFC consumption baseline (%)	0.00	0.00	0.00	0.00	8.27	8.27	16.55

* Calculated based on population growth, economic development and the HFC phase-in resulting from the HCFC phase-out.

Proposed activities

28. The activities in stage I of the KIP focus on HFC reduction in the RAC servicing and local installation and assembly sectors, as well as project monitoring and management.

29. The strategy for the local installation and assembly subsector involves a complete phase-out of HFC-134a and R-410A in commercial and industrial AC applications. The project will eliminate 0.61 mt of HFC-134a and 7.38 mt of R-410A used for the onsite charging of locally installed equipment, and all phased out units will be replaced with systems that use alternative refrigerants with a GWP below 750. Activities planned in the local installation and assembly subsector of stage I of the KIP and their cost breakdown are presented in table 8.

Table 8. Local installation and assembly subsector activities and their costs in stage I of the KIP for Oman as submitted

Activity	Agency	Cost (US \$)	
		First tranche	Stage I
Conduct a national survey of assemblers and installers to collect detailed information	UNEP	24,000	24,000
Training of 20 assemblers and installers on RAC good servicing practices such as safe handling, leakage control, energy efficiency and refrigerant recovery		0	8,000
One awareness-raising workshop for assemblers and installers on the latest developments and new emerging technologies in RAC manufacturing and servicing in collaboration with RAC associations		0	4,693
Provision of tools and equipment to 20 assemblers and installers, to be determined following the survey	UNIDO	0	24,000
Total (local installation and assembly)		24,000	60,693

30. Activities in the servicing sector proposed for implementation under stage I and the first tranche and their cost breakdown are presented in table 9.

Table 9. Servicing sector activities and their costs in stage I of the KIP for Oman as submitted

Table 3: Servicing sector activities and their costs in stage I for the RFP for Oman as submitted			
Activity	Agency	Cost (US \$)	
		First tranche	Stage I
RAC servicing sector			
Policy development and implementation			
Review the existing policy and regulations, develop legal and regulatory framework for supporting HFC phase-down: - Strengthen HFC quota system and develop SOP - Further develop regulatory framework for prevention of illegal trade of HFCs - Introduce and implement the bans on imports of HFC-based new and second-hand equipment and bans on non-refillable (disposable) HFC containers - Develop a standard or SOP for safe transport and storage of HFCs and alternatives	UNEP	75,000	150,000

Activity	Agency	Cost (US \$)	
		First tranche	Stage I
Introduction of the mandatory certification scheme for RAC specialists and enterprises to better service end users		25,000	25,000
Inclusion of HFC-based equipment into the scope of the leakage check system through legal measures		0	25,000
Development of legal and regulatory framework to ensure safe handling, storage, transportation of refrigerants including HFCs throughout the lifecycle refrigerant management		0	25,000
Development of green procurement policy/guidelines to promote energy-efficient and low-GWP alternative-based equipment and certified technician's servicing in the RAC sector		0	25,000
Subtotal		100,000	250,000
<i>Training of customs officers, importers and clearance agents</i>			
Upgrade the curriculum of customs training institutes to include HFCs, new HS codes, alternative technologies, the new legislative framework, and methods for the safe handling of flammable substances	UNEP	30,000	30,000
Two workshops to train 20 trainers from main customs ports on the safe handling of flammable and toxic substances		15,000	15,000
Three workshops to train 60 customs officers on control of HFCs including risk profiling		10,000	30,000
Two workshops to train 40 enforcement officers at province level to support enforcement beyond the customs check point		10,000	20,000
Two workshops to train 40 importers and clearing/forwarding agents on new regulatory measures under stage I of the KIP, HFC data management and reporting		10,000	20,000
Two border regional/cross-border enforcement cooperation meetings with neighbouring countries		5,000	10,000
Subtotal		80,000	125,000
<i>Capacity-building of RAC/MAC servicing technicians and workshops</i>			
Training of 360 technicians (18 training workshops) on good servicing practices and the safe handling of flammable and toxic refrigerants in collaboration with local institutes	UNEP	60,000	180,000
Review and update MAC training curriculum to incorporate into the national MAC certification system		10,000	10,000
One workshop to train 10-15 trainers in the MAC sector in good service practices, leakage control and servicing with alternatives		10,000	10,000
Three workshops to train 60 MAC technicians in good service practices, including leakage control and the safe handling of alternative refrigerants		10,000	30,000
Provision of scholarships for 25 women to study university courses related to MAC and the automotive sector to build a group of female experts		10,500	17,500
Support for the development of a national RAC/MAC association		5,000	10,000
Provision of tools and equipment ³ to the 360 trained/certified technicians as an incentive for participation in the training course	UNIDO	54,000	108,000
Provision of tools and equipment ⁴ to 160 registered servicing workshops to enable good servicing practices		96,000	192,000
Subtotal		255,500	557,500

³ Including flaring and swaging tools, tubing tools, wrenches, multimeter, leak detector for flammable refrigerant, personal protection, etc.

⁴ Refrigerant charging unit, recovery station for HCFCs and HFCs, leak detector for HFCs and flammable gases, refillable refrigerant recovery and service cylinders, etc.

Activity	Agency	Cost (US \$)	
		First tranche	Stage I
<i>Sectoral studies</i>			
Study of consumption and use of HFCs in aerosol, solvent, firefighting and foam sectors	UNEP	0	15,000
Study of consumption and use of HFCs in the RAC local installation and assembling sector as well as potential alternative technologies for the local market		0	15,000
Subtotal		0	30,000
<i>National RRR scheme</i>			
Provide technical assistance and equipment (cylinders and bulk storage tanks) to an established RRR centre for the inclusion of HFCs	UNIDO	45,000	45,000
Subtotal		45,000	45,000
<i>Promotion of alternative technologies</i>			
Feasibility study on adapting the domestic AC sector to low-GWP alternative technologies	UNEP	18,466	18,466
Three sessions for dissemination of information on the latest developments and new emerging technologies with special focus on servicing in collaboration with RAC associations		15,000	45,000
Technical assistance to large end users to reduce leaks and transition into non-ODS and low-GWP alternatives by providing information on leakage reduction, improved design, and maintenance practices of RAC equipment; includes two workshops for 40 end users as well as on-site guidance for select large commercial/industrial enterprises		15,000	30,000
Technical assistance to establish a national refrigerant management system to track controlled substances through their lifecycle		40,000	40,000
Feasibility study of the final disposal of unwanted refrigerants, including review of existing regulatory framework and capacity for environmentally sound ODS management		0	20,000
Subtotal		88,466	153,466
<i>Awareness-raising campaigns</i>			
Targeted awareness-raising campaigns on HFCs and low-GWP technologies, including campaigns targeting women	UNEP	15,000	30,000
Information and awareness-raising workshops for economic operators (importers, distributors), service providers and compliance officers		15,000	30,000
Subtotal		30,000	60,000
Total (RAC servicing)		598,966	1,220,966

Project implementation, coordination and monitoring

31. The modality of implementation of the HPMP will continue to be used for the KIP implementation. Project monitoring, coordination and reporting will be implemented through the NOU, which will be responsible for data collection, monitoring, and the preparation of reports, while the project management unit (PMU) will be responsible for project implementation and supporting the NOU. The total cost for the PMU is estimated at US \$128,160 for UNEP, consisting of US \$104,400 for staff and consultants, US \$6,500 for office rent, US \$9,760 for travel, US \$7,500 for meetings and workshops.

Total cost of stage I of the Kigali HFC implementation plan

32. The budget for stage I has been proposed at US \$1,394,161. The proposed activities and cost of stage I and in the first tranche of stage I of the KIP are summarized in table 10.

Table 10. Summary of proposed costs of activities to be implemented in stage I and in the first tranche of stage I of the KIP for Oman (US \$)

Activity sector	First tranche	Stage I
Local installation and assembly sector	24,000	60,693
RAC servicing sector	598,966	1,220,966
Project implementation and monitoring	51,264	128,160
Subtotal for UNEP	479,230	1,040,819
Subtotal for UNIDO	195,000	369,000
Total project cost	674,230	1,409,819

33. The costs of activities in the refrigeration servicing sector have been proposed in line with decision 92/37. The cost for the local installation and assembly subsector is requested at US \$7.60/kg based on the best available estimate provided by UNEP, as shown in table 11.

Table 11. Phase-out and cost-effectiveness of the proposed cost of activities to be implemented in stage I of the KIP for Oman, as originally submitted (US \$)

Sector	Substances	Phase-out		Requested funding (US \$)	CE (US \$/kg)	Agency
		mt	CO ₂ -eq tonnes			
Servicing	HFC-134a, R-410A, R-404A, R-507A, R-407C, HFC-32, R-407A, HFC-245fa, HFC-236fa, R-407F, R-452A	239.41	445,084	1,220,966	5.10	UNEP/UNIDO
Local installation and assembly	Phase-out: HFC-134a, R-410A	7.99	16,278	60,693	7.60	UNEP/UNIDO
Project implementation and monitoring	n/a	n/a	n/a	128,160	n/a	UNEP
Total		247.40	461,362	1,409,819	5.70	-

Implementation plan for the first tranche

34. The first funding tranche of stage I of the KIP was submitted at a total amount of US \$674,230, as shown in table 10 above, to be implemented between July 2026 and December 2029. Detailed information on the activities to be implemented under the first tranche, including adjustments and level of funds agreed, are presented in paragraph 55 below.

SECRETARIAT'S COMMENTS AND RECOMMENDATION

V. Comments

HFC consumption

35. Although the KIP survey collected some information on the manufacturing sector, it could not gather detailed data on the foam and firefighting subsectors due to the unavailability of industry-specific information (e.g., enterprise profiles, production and consumption statistics, and equipment specifications), compounded by the limited preparation time. Consequently, the Government decided to defer preparing a full manufacturing investment project. Instead, during stage I implementation, it will collect the necessary industry data to formulate the investment component for these subsectors.

36. The Secretariat noted that 2025 HFC consumption is 20 per cent lower than 2024 and inquired about the estimated 2026 HFC consumption. UNEP advised that for 2026, Oman projects a stabilization of consumption, with a slight decrease from the 2025 level due to the activities being implemented including the intensified monitoring and awareness-raising efforts to prevent sharp increases ahead of the 2028 freeze.

Furthermore, the continued implementation of good servicing practices under the HPMP will help sustain reduced leakage-based demand.

Establishment of the “interim” baseline

37. As described in paragraph 3 above, Oman’s HFC baseline will be calculated based on the average consumption from 2024 to 2026. Since 2026 consumption data is not yet available, the Government proposes using HFC consumption data from the most recent three-year period (2023–2025) to establish an “interim” baseline for setting stage I targets, which is calculated at 2,787,916 CO₂-eq tonnes. Once the official 2026 data becomes available in 2027, the targets in Appendix 2-A of the Agreement will be recalculated based on the HFC baseline. However, the forecast consumption in 2026 indicates that the reductions proposed will be sufficient to reach the 10 per cent reduction target in 2032 once the baseline is established and therefore it is expected that the agreed levels for HFC reduction, activities, and funding will remain largely unchanged.

Overarching strategy

38. The Government of Oman is proposing to reduce HFC consumption by 16.55 per cent from the “interim” HFC baseline. In line with decision 92/44, the Government of Oman has expressed, through UNEP, a strong commitment to support reductions in HFC consumption in advance of the Montreal Protocol phase-out schedule. However, an endorsement letter has not been provided as of issuance of this document.

39. The Secretariat notes with appreciation that Oman, as an Article 5, Group 2 country, is taking early action to demonstrate its full commitment to the Kigali Amendment. This strategy is considered feasible because the required reductions can be achieved primarily within the RAC servicing sector by enforcing good practices and refrigerant RRR, as well as by promoting low-GWP alternatives. Oman’s limited HFC manufacturing capacity further enables this approach, as it avoids the significant technical and financial challenges of industrial conversion faced by other Group 2 countries.

Targets and funding

40. The activities proposed in the KIP proposal submitted to the 98th meeting remain largely the same as those submitted to the 97th meeting, with some adjustments in funding levels and control targets as follows:

- (a) The control target in row 1.2 of the Agreement has been decreased by 3 per cent for 2026 to 2031 and 4 per cent for 2032 due to a reduction in the revised “interim” baseline from 2,877,010 to 2,787,916 CO₂-eq tonnes;
- (b) The net reduction has increased from 461,386 CO₂-eq tonnes to 461,400 CO₂-eq tonnes, and the percentage phase-out in stage I of the KIP has increased from 16.04 per cent to 16.55 per cent of the “interim” baseline;
- (c) An interim target for 2030 and 2031 was increased from 8 per cent to 8.275 per cent reduction of the revised “interim” baseline; and
- (d) The 2032 control target has been reduced from 2,415,624 CO₂-eq tonnes to 2,326,516 CO₂-eq tonnes, which is 89,108 CO₂-eq tonnes lower than that at the 97th meeting.

41. The Secretariat discussed the proposed reduction targets with UNEP and inquired whether lower targets could be considered by the Government, given the reduced consumption in 2025 and uncertainty

about the expected level of consumption in 2026. UNEP responded that the Government had carefully considered the Secretariat's suggestion. However, the Government of Oman considers maintaining the currently proposed targets for the following reasons:

- (a) The decrease in 2025 consumption is considered an anomaly and does not reflect the long-term upward trend in cooling demand. Setting targets based on this low point would create an artificially constrained baseline that ignores the actual installed capacity of HFC-based equipment;
- (b) As a high-ambient-temperature country, Oman's RAC servicing needs are highly sensitive to climatic variations. Lowering targets prematurely, before the impact of stage I of the KIP interventions is fully realized, poses a significant risk to national compliance with the 2028 freeze; and
- (c) While some sectors may fluctuate, ongoing national infrastructure development and a population growth of approximately 5.13 per cent indicate that long-term HFC demand remains strong.

42. UNEP further indicated that Oman remains fully committed to the Kigali Amendment. However, the Government believes that maintaining the current targets provides the necessary safety buffer to allow for a sustainable and stable transition to low-GWP technologies without disrupting the economy. Therefore, the Government prefers to maintain the current targets to ensure a realistic and achievable compliance path.

43. The Secretariat notes that for the actual baseline to be at the same level as the current "interim" baseline, 2026 consumption would need to rebound to the 2023 level (i.e., a 26 per cent increase from the 2025 consumption). If that growth does not happen, the actual baseline (once established) would be lower than the "interim" baseline; as the agreed reduction of 461,400 CO₂-eq tonnes from the country's remaining HFC consumption eligible for funding would not change, the 2032 target would be revised further downward, and the resulted percentage of reduction would exceed 16.55 per cent of the established baseline.

44. In the unlikely event that 2026 HFC consumption increases to the point where the agreed reduction of 461,400 CO₂-eq tonnes is less than what is needed to meet the 10 per cent reduction target (i.e., if the reported 2026 consumption is more than 57 per cent above 2025 consumption), the 2032 target would nonetheless be set at 10 per cent from the country's established baseline, in compliance with the Montreal Protocol control schedule.

45. The total funding for stage I of the KIP has been reduced from US \$1,410,015 at the 97th meeting to US \$1,394,161, a net decrease of US \$15,854. This reduction consists of US \$15,256 from the servicing sector activities and US \$598 from the assembly sector project, while the cost effectiveness of both sectors remains unchanged. The funding for the servicing sector was calculated in line with decision 92/37. Due to the change in the average GWP value in the servicing sector from the 2022-2024 period to the 2023-2025 period, the servicing sector funding level was reduced by US \$15,256. Additionally, based on sector consumption distribution in 2025, the phase-out from the assembly sector project was reduced from 16,431 CO₂-eq tonnes (8.06 mt) to 16,278 CO₂-eq tonnes (7.99 mt) resulting in a corresponding funding reduction from US \$61,291 to US \$60,693.

46. The Montreal Protocol phase-down schedule and the agreed maximum allowable levels of HFC consumption are presented in table 12.

Table 12: Montreal Protocol schedule and the maximum allowable consumption under the KIP

Particulars		2026	2027	2028	2029	2030	2031	2032	Total
Montreal Protocol reduction schedule of Annex F substances	%	n/a	n/a	0.00	0.00	0.00	0.00	10.00	n/a
	CO ₂ -eq tonnes	n/a	n/a	2,787,916	2,787,916	2,787,916	2,787,916	2,509,124	n/a

Particulars		2026	2027	2028	2029	2030	2031	2032	Total
Maximum allowable total consumption of Annex F substances	%	0.00	0.00	0.00	0.00	8.275	8.275	16.55	n/a
	CO ₂ -eq tonnes	2,787,916	2,787,916	2,787,916	2,787,916	2,557,216	2,557,216	2,326,516	n/a

Institutional, policy and regulatory framework

HFC licensing and quota system

47. In line with decision 87/50(g), UNEP has confirmed that Oman has established an operational licensing system to monitor HFC imports and exports and currently tracks all HFC imports. Regarding the quota system, although the regulatory framework is in place, the NOU has not yet assigned specific import quotas for 2026 and 2027, as Oman's first HFC control measure (the freeze) begins in 2028. The Secretariat further inquired how HFC consumption in 2026–2027 would be controlled to meet the Agreement's targets if quotas are not enforced; UNEP advised that while it could be difficult to agree on and enforce a quota in 2026 before the baseline is established, upon approval of the KIP with its reduction targets, the NOU will be in a position to establish and enforce the quota, which will facilitate full compliance.

Technical and cost-related issues

48. From 2026 to 2032, HFC consumption in the manufacturing and local installation and assembly subsectors is expected to grow annually by 3 and 5 per cent respectively under a business-as-usual scenario. To curb this growth, stage I of the KIP includes the phase-out of HFC-134a and R-410A in AC applications. Furthermore, stage I encompasses awareness-raising and consultative activities to inform industries about the reduction targets of the KIP.

49. The project requested separate funding to phase out HFCs in the local installation and assembly subsector at a cost-effectiveness of US \$7.60/kg. In subsequent discussions with UNEP, the focus was on monitoring the phase-out and implementing regulatory measures to ensure the sustainability of the reductions. It was agreed that the Government of Oman will closely monitor HFC consumption in this subsector and report data for the assembly subsector separately from the servicing sector in its country programme reports, starting in 2026. It was also agreed that the phase-out of R-134a and R-410A in the commercial AC assembly subsector will be considered a total HFC phase-out of that subsector. Upon completion of the planned subsector activities, the Government will establish regulatory measures to prohibit the use of HFC-134a and R-410A in the onsite charging of commercial and industrial AC equipment by 2032 at the latest.

50. The Secretariat reviewed the activities and costs in line with decision 92/37(b)(iii). During the project review, the 2025 Article 7 data was published. This data shows a minor difference from the project data due to rounding. Additionally, the GWP value in the servicing sector was recalculated as 1,882.21, using only the HFC consumption in the servicing sector and excluding consumption from the local installation and assembly subsector. The phase-out amount for the servicing sector was recalculated as 236.49 mt, resulting in a revised cost of US \$1,206,096 for that sector, a reduction of US \$14,870 from the original submission. Subsequently, adjustments to the costs of activities were made as follows: the cost for the feasibility study on adapting low-GWP alternative technologies in the domestic AC sector was reduced from US \$18,466 to US \$15,596; and the cost for awareness-raising activities was reduced from US \$60,000 to US \$48,000. The agreed activities and costs for the servicing sector are presented in the table 13.

Table 13. Agreed servicing sector activities and their costs in stage I of the KIP for Oman as agreed

Activity	Agency	Cost (US \$)	
		Submitted	Revised
RAC servicing sector			
<i>Policy development and implementation</i>			
Review the existing policy and regulations, develop legal and regulatory framework for supporting HFC phase-down: - Strengthen HFC quota system and develop SOP - Further develop regulatory framework for prevention of illegal trade of HFCs - Introduce and implement the bans on imports of HFC-based new and second-hand equipment and bans on non-refillable (disposable) HFC containers - Develop a standard or SOP for safe transport and storage of HFCs and alternatives	UNEP	150,000	150,000
Introduction of the mandatory certification scheme for RAC specialists and enterprises to better service end users		25,000	25,000
Inclusion of HFC-based equipment into the scope of the leakage check system through legal measures		25,000	25,000
Development of legal and regulatory framework to ensure safe handling, storage, transportation of refrigerants including HFCs throughout the lifecycle refrigerant management		25,000	25,000
Development of green procurement policy/guidelines to promote energy-efficient and low-GWP alternative-based equipment and certified technician’s servicing in the RAC sector		25,000	25,000
Subtotal		250,000	250,000
<i>Training of customs officers, importers and clearance agents</i>			
Upgrade the curriculum of customs training institutes to include HFCs, new HS codes, alternative technologies, the new legislative framework, and methods for the safe handling of flammable substances	UNEP	30,000	30,000
Two workshops to train 20 trainers from main customs ports on the safe handling of flammable and toxic substances		15,000	15,000
Three workshops to train 60 customs officers on control of HFCs including risk profiling		30,000	30,000
Two workshops to train 40 enforcement officers at province level to support enforcement beyond the customs check point		20,000	20,000
Two workshops to train 40 importers and clearing/forwarding agents on new regulatory measures under stage I of the KIP, HFC data management and reporting		20,000	20,000
Two border regional/cross-border enforcement cooperation meetings with neighbouring countries		10,000	10,000
Subtotal		125,000	125,000
<i>Capacity-building of RAC/MAC servicing technicians and workshops</i>			
Training of 360 technicians (18 training workshops) on good servicing practices and the safe handling of flammable and toxic refrigerants in collaboration with local institutes	UNEP	180,000	180,000
Review and update MAC training curriculum to incorporate into the national MAC certification system		10,000	10,000
One workshop to train 10-15 trainers in the MAC sector in good service practices, leakage control and servicing with alternatives		10,000	10,000
Three workshops to train 60 MAC technicians in good service practices, including leakage control and the safe handling of alternative refrigerants		30,000	30,000
Provision of scholarships for 25 women to study university courses related to MAC and the automotive sector to build a group of female experts		17,500	17,500

Activity	Agency	Cost (US \$)	
		Submitted	Revised
Support for the development of a national RAC/MAC association	UNIDO	10,000	10,000
Provision of tools and equipment ⁵ to the 360 trained/certified technicians as an incentive for participation in the training course		108,000	108,000
Provision of tools and equipment ⁶ to 160 registered servicing workshops to enable good servicing practices		192,000	192,000
Subtotal		557,500	557,500
Sectoral studies			
Study of consumption and use of HFCs in aerosol, solvent, firefighting and foam sectors	UNEP	15,000	15,000
Study of consumption and use of HFCs in the RAC local installation and assembling sector as well as potential alternative technologies for the local market		15,000	15,000
Subtotal		30,000	30,000
National RRR scheme			
Provide technical assistance and equipment (cylinders and bulk storage tanks) to an established RRR centre for the inclusion of HFCs	UNIDO	45,000	45,000
Subtotal		45,000	45,000
Promotion of alternative technologies			
Feasibility study on adapting the domestic AC sector to low-GWP alternative technologies	UNEP	18,466	15,596
Three sessions for dissemination of information on the latest developments and new emerging technologies with special focus on servicing in collaboration with RAC associations		45,000	45,000
Technical assistance to large end users to reduce leaks and transition into non-ODS and low-GWP alternatives by providing information on leakage reduction, improved design, and maintenance practices of RAC equipment; includes two workshops for 40 end users as well as on-site guidance for select large commercial/industrial enterprises		30,000	30,000
Technical assistance to establish a national refrigerant management system to track controlled substances through their lifecycle		40,000	40,000
Feasibility study of the final disposal of unwanted refrigerants, including review of existing regulatory framework and capacity for environmentally sound ODS management		20,000	20,000
Subtotal		153,466	150,596
Awareness-raising campaigns			
Targeted awareness-raising campaigns on HFCs and low-GWP technologies, including campaigns targeting women	UNEP	30,000	24,000
Information and awareness-raising workshops for economic operators (importers, distributors), service providers and compliance officers		30,000	24,000
Subtotal		60,000	48,000
Total (RAC servicing)		1,220,966	1,206,096

51. The cost of activities in the servicing sector was agreed at US \$1,206,096 calculated at US \$5.1/kg; reductions from the remaining HFC consumption eligible for funding in the servicing sector amount to 445,122 CO₂-eq tonnes, as summarized in table 14.⁷ In addition, the cost for reducing 16,278 CO₂-eq tonnes (7.99 mt) of HFCs (HFC-134a and R-410A) in the local installation and assembly

⁵ Including flaring and swaging tools, tubing tools, wrenches, multimeter, leak detector for flammable refrigerant, personal protection, etc.

⁶ Refrigerant charging unit, recovery station for HCFCs and HFCs, leak detector for HFCs and flammable gases, refillable refrigerant recovery and service cylinders, etc.

⁷ Calculated in line with the methodology presented in annex I of document UNEP/OzL.Pro/ExCom/92/46.

subsector was agreed at US \$60,693 as proposed. As a result, the total agreed reductions from the country's HFC consumption eligible for funding amount to 461,400 CO₂-eq tonnes. Accordingly, the Government of Oman has agreed to reduce its 2032 HFC consumption to 2,326,516 CO₂-eq tonnes, representing 16.55 per cent of the country's "interim" HFC baseline for compliance.

Table 14. Agreed costs and reductions from HFC consumption eligible for funding and final target

Servicing sector		
Average HFC consumption in the servicing sector in "interim" baseline years	mt	1,035.24
	CO ₂ -eq tonnes	1,948,535
Average GWP of all HFCs consumed in the sector		1,882.21
Agreed funding	US \$	1,206,096
Agreed cost-effectiveness threshold	US \$/kg	5.10
Reductions in the servicing sector	mt	236.49
	CO ₂ -eq tonnes	445,122
Reductions from all sectors		
"Interim" HFC consumption baseline	CO ₂ -eq tonnes	2,787,916
Reductions achieved through phase-out in local installation and assembly subsector	CO ₂ -eq tonnes	16,278
Reductions achieved through activities in the servicing sector	CO ₂ -eq tonnes	445,122
Total reductions achieved under stage I	CO₂-eq tonnes	461,400
Target		
Proposed 2032	CO ₂ -eq tonnes	2,326,516

Total project cost

52. At the total cost of US \$1,394,949, stage I of the KIP for Oman will result in a reduction of 461,400 CO₂-eq tonnes from the country's HFC consumption eligible for funding, as summarized in table 15.

Table 15. Agreed cost of activities to be implemented during stage I of the KIP in Oman

Sector	Agency	Substance	Phase-out to be achieved				Cost		CE	
			mt		CO ₂ -eq tonnes		US \$	US \$/kg	US \$/CO ₂ -eq tonne	
			Funded	Non-funded	Funded	Non-funded				
Local installation and assembly	UNEP and UNIDO	HFC-134a	0.61	0	872	0	60,693	7.60	3.73	
		R-410A	7.38	0	15,406	0				
Servicing	UNEP and UNIDO	HFC-134a, R-410A, R-404A, R-507A, R-407C, HFC-32, R-407A, HFC-245fa, HFC-236fa, R-407F, R-452A	236.49	0	445,122	0	1,206,096	5.10	2.71	
PMU	UNEP	n/a	0	0	0	0	128,160	n/a	n/a	
Total			244.48	0	461,400	0	1,394,949	5.71	3.02	

53. Stage I of the KIP will be implemented in three tranches.

54. The agreed activities and cost of stage I and in the first tranche of stage I of the KIP are summarized in table 16.

Table 16. Summary of agreed costs of activities to be implemented in stage I and in the first tranche of stage I of the KIP for Oman (US \$)

Activity sector	First tranche	Stage I
Local installation and assembly sector	24,000	60,693
RAC servicing sector	590,096	1,206,096
Project implementation and monitoring	51,264	128,160
Subtotal for UNEP	470,360	1,025,949
Subtotal for UNIDO	195,000	369,000
Total project cost	665,360	1,394,949

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

55. The plan of action for the first tranche was agreed as submitted, as shown in table 17.

Table 17. Activities and their costs in the first tranche of the KIP for Oman as agreed

Activity	Agency	Cost (US \$)
RAC servicing sector		
Policy development and implementation (US \$100,000)		
Begin review the existing policy and regulations, develop legal and regulatory framework for supporting HFC phase-down: - Strengthen HFC quota system and develop SOP - Develop further regulatory framework for prevention of illegal trade of HFCs - Introduce and implement the ban on imports of HFC-based new and second-hand equipment and bans on non-refillable (disposable) HFC containers - Develop a standard or SOP for safe transport and storage of HFCs and alternatives	UNEP	75,000
Introduce a mandatory certification scheme for RAC specialists and enterprises to improve service quality for end users		25,000
Training of customs officers, importers and clearance agents (US \$80,000)		
Upgrade the curriculum of customs training institutes to include HFCs, new HS codes, alternative technologies, the new legislative framework, and methods for the safe handling of flammable substances	UNEP	30,000
One workshop to train 10 trainers on the safe handling of flammable and toxic substances		15,000
One workshop to train 20 customs officers on control of HFCs including risk profiling		10,000
One workshop to train 20 enforcement officers at province level to support enforcement beyond the customs check point		10,000
One workshop to train 20 importers and clearing/forwarding agents on new regulatory measures under stage I of the KIP, HFC data management and reporting		10,000
One border dialogue/cross-border enforcement cooperation meeting with neighbouring countries		5,000
Capacity-building of RAC/MAC servicing technicians and workshops (US \$255,500)		
Six workshops to train 120 technicians on good servicing practices and the safe handling of flammable and toxic refrigerants in collaboration with local institutes	UNEP	60,000
Review and update MAC training curriculum to incorporate into the national MAC certification system		10,000
One workshop to train 10-15 trainers in MAC sector in good service practices, leakage control and servicing with alternatives		10,000
One workshop to train 20 MAC technicians in good service practices, including leakage control and the safe handling of alternative refrigerants		10,000
Provision of scholarships for 15 women to study university courses related to MAC and the automotive sector		10,500
Support for the development of a national RAC/MAC association		5,000

Activity	Agency	Cost (US \$)
Provision of tools and equipment to 300 trained/certified technicians as an incentive for participation in the training course	UNIDO	54,000
Provision of tools and equipment to 80 registered servicing workshops to enable good servicing practices		96,000
National RRR scheme (US \$45,000)		
Develop a guideline as part of technical assistance to an established RRR centre for the inclusion of HFCs	UNIDO	45,000
Promotion of alternative technologies (US \$85,596)		
One feasibility study on adapting the domestic AC sector to low-GWP alternative technologies	UNEP	15,596
One session for dissemination of information on the latest development and new emerging technologies with special focus on servicing in collaboration with RAC associations		15,000
Begin technical assistance to large end users to reduce leaks and transition into non-ODS and low-GWP alternatives by providing information on leakage reduction, improved design, and maintenance practice of RAC equipment		15,000
Technical assistance to establish a national refrigerant management system to track controlled substances through their lifecycle		40,000
Awareness-raising campaigns (US \$24,000)		
One targeted awareness-raising campaign on HFCs and low-GWP technologies, including campaigns targeting women	UNEP	12,000
Information and awareness-raising workshops for economic operators (importers, distributors), service providers and compliance officers		12,000
Subtotal (RAC servicing)		590,096
Local installation and assembly sector		
Conduct a national survey of assemblers and installers to collect detailed information	UNEP	24,000
Subtotal (local installation and assembly)		24,000
Project implementation, coordination and monitoring		
Project implementation, coordination and monitoring activities, including US \$41,760 for staff and consultants, US \$2,600 for office rent, US \$3,904 for travel, and US \$3,000 for meetings and workshops	UNEP	51,264
Subtotal (PMU)		51,264
Subtotal for UNEP		470,360
Subtotal for UNIDO		195,000
Total		665,360

Exemption for high-ambient temperature parties

56. Oman is a country eligible for the high-ambient temperature exemption as per paragraph 26 of decision XXVIII/2 of the Meeting of the Parties. The Secretariat notes that Oman has not requested it and has expressed, through UNEP, its firm commitment to not doing so in the future.

Co-financing

57. The Government of Oman's co-financing will be in the form of in-kind contributions, including the provision of office space, development of policies and regulatory measures, and oversight of the implementation process. The Government remains committed to exploring co-financing opportunities throughout stage I.

2026–2028 business plan of the Multilateral Fund

58. UNEP and UNIDO are requesting US \$1,394,949, plus agency support costs, for the implementation of stage I of the KIP for Oman. The total value of US \$735,334, including agency support costs, requested for the period of 2026–2028, is US \$639,580 below the amount in the business plan.

Gender policy implementation

59. In line with decisions 84/92(d), 90/48(c) and 92/40(b) and the Multilateral Fund gender policy, women's engagement was considered throughout the project planning process. Activities are planned to collect and monitor disaggregated data, organize related training sessions and follow up on any discussions and recommendations, involve women in awareness-raising activities, ensure women's involvement in training and informational materials, provide scholarships to women pursuing careers in RAC, and monitor and report on the implementation of the gender policy throughout the project. The scholarship activity is designed specifically for the automotive sector to invest in the training and education of female MAC technicians, supervisors, and engineers, and to build a foundation of female experts and policy makers to represent and advocate for women in MAC.

Sustainability of the HFC phase-down and assessment of risks

60. The phase-out in the local installation and assembly subsectors will be sustained by a ban on using HFC-134a and R-410A to charge onsite installed equipment. Additional regulatory measures, including an HFC licensing and quota system, prevention of illegal HFC trade, a ban on importing new and second-hand HFC-based equipment, and a ban on non-refillable HFC containers, will limit imports of HFCs and HFC-based equipment. This will enable the country to maintain the overall HFC reduction. Furthermore, training and capacity-building for the servicing sector, including refrigerant leakage control and RRR as well as safe handling of flammable refrigerants, will mitigate risks to the sustainability of the national phase-down.

61. The major potential risks to the successful implementation of the KIP include a lack of low-GWP alternatives or a slow introduction of alternative technologies to the market, the proliferation of high-GWP technologies, high HFC consumption growth that would require larger reductions than can be feasibly achieved, insufficient capacity for servicing HFC- and low-GWP-based equipment, and a lack of stakeholder participation. To address these risks, the KIP has incorporated activities such as developing regulations to control the import of high-GWP HFCs, conducting awareness-raising campaigns to promote low-GWP technologies, encouraging stakeholder involvement, and providing training and technical assistance. The monitoring and evaluation mechanisms established during the HPMP will be used to track the KIP's progress, and the NOU will submit annual progress and financial reports.

Potential risk to implementation of the KIP due to security related issues

62. The Secretariat requested UNEP to assess security-related risks and their impact on project implementation. UNEP provided its assessment and will take the following risk mitigation measures where necessary: localized implementation to minimize centralized, large-scale movement; virtual coordination of stakeholder consultations and policy meetings; supply chain buffer through local and regional suppliers to mitigate potential shipping or logistics delays; and adaptive scheduling with sufficient flexibility to pause and resume field activities should security conditions change.

Impact on the climate

63. The activities proposed, including regulatory measures to control HFC imports and efforts to promote low-GWP alternatives, refrigerant recovery and reuse, as well as the HFC phase-out in the local installation and assembly subsector, 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 2032, Oman will have reduced its emissions by approximately 461,400 CO₂-eq tonnes of HFCs, calculated as the difference between the HFC baseline for compliance and the 2032 target, assuming that all consumed HFCs would have eventually been emitted.

Draft Agreement

64. A draft Agreement between the Government of Oman and the Executive Committee for stage I of the KIP is contained in annex I to the present document. The Agreement will be revised once the consumption data for 2026 is reported and the actual baseline is established.

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

65. Annex II summarizes the simultaneous implementation of activities under the HPMP and the KIP.

VI. Recommendation

66. The Executive Committee may wish to consider:

- (a) Approving, in principle, stage I of the Kigali HFC implementation plan (KIP) for Oman for the period 2026–2032 to reduce HFC consumption by 16.55 per cent of the country's "interim" baseline as defined in paragraph 3 of document UNEP/OzL.Pro/ExCom/98/44, in the amount of US \$1,543,633, consisting of US \$1,025,949, plus agency support costs of US \$122,854, for UNEP and US \$369,000, plus agency support costs of US \$25,830, for UNIDO;
- (b) Noting:
 - (i) That 461,400 CO₂-equivalent tonnes of HFCs will be deducted from the starting point for sustained aggregate reductions in HFC consumption that will be established on the basis of guidance provided by the Executive Committee;
 - (ii) That the Government of Oman will establish regulatory measures to prohibit the use of HFC-134a and R-410A in the onsite charging of commercial and industrial air-conditioning equipment by 2032 at the latest;
- (c) Approving:
 - (i) The draft Agreement between the Government of Oman 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;
 - (ii) The first tranche of stage I of the KIP for Oman and the corresponding tranche implementation plan, in the amount of US \$735,334, consisting of US \$470,360, plus agency support costs of US \$56,324, for UNEP and US \$195,000, plus agency support costs of US \$13,650, for UNIDO; and
- (d) Requesting the Fund Secretariat, once the country's baseline is established, to update Appendix 2-A of the Agreement to include the revised figures for the Montreal Protocol HFC consumption limits and maximum allowable consumption for stage I of the KIP, and to notify the Executive Committee of the resulting levels of maximum allowable consumption, with any necessary adjustments being made at the first meeting in 2029 when the second tranche is submitted, on the understanding that the maximum allowable

consumption for stage I in the updated Appendix 2-A would at a minimum meet the 10 per cent reduction target.

Annex I

**DRAFT AGREEMENT BETWEEN THE GOVERNMENT OF OMAN
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: 2026–2032)**

Purpose

1. This Agreement represents the understanding of the Government of Oman (“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 2,326,516 CO₂-equivalent (CO₂-eq) tonnes by 1 January 2032 in compliance with the Montreal Protocol schedule and the terms of this Agreement. The Agreement shall be adjusted once when the consumption for 2026 is reported and the HFC baseline is established.
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, and in respect to any consumption of Annex F substances that exceeds the level defined in row 4.1.3 (remaining consumption eligible for funding).
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;

- (c) Any enterprise included in the Plan that would be found to be ineligible under the policies of the Multilateral Fund (i.e., due to foreign ownership or establishment after the applicable cut off date) would not receive financial assistance. This information would be reported as part of the Tranche Implementation Plan; and
- (d) Any remaining funds held by the bilateral or implementing agencies or the Country under the Plan will be returned to the Multilateral Fund upon completion of the last tranche foreseen under this Agreement.

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

Bilateral and implementing agencies

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

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

Non-compliance with the Targets in the Agreement

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

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

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

Date of completion

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

Validity

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

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

APPENDICES

APPENDIX 1-A: THE SUBSTANCES

Substances	Starting point for aggregate reductions in consumption (CO ₂ -eq tonnes)
HFCs	To be determined (TBD)

APPENDIX 2-A: THE TARGETS, AND FUNDING

Row	Particulars		2026	2027	2028	2029	2030	2031	2032	Total
1.1	Montreal Protocol reduction schedule of Annex F substances (interim)	%	n/a	n/a	freeze	freeze	freeze	freeze	10	n/a
		CO ₂ -eq tonnes	n/a	n/a	2,787,916	2,787,916	2,787,916	2,787,916	2,509,124	n/a
1.2	Maximum allowable total consumption of Annex F substances	Reduction in %	0.0	0.0	0.0	0.0	8.3	8.3	16.5	n/a
		CO ₂ -eq tonnes	2,787,916	2,787,916	2,787,916	2,787,916	2,557,216	2,557,216	2,326,516	n/a
2.1	Lead IA (UNEP) agreed funding (US \$)		470,360	0	0	389,957	0	165,632	0	1,025,949
2.2	Support costs for Lead IA (US \$)		56,324	0	0	46,696	0	19,834	0	122,854
2.3	Cooperating IA (UNIDO) agreed funding (US \$)		195,000	0	0	174,000	0	0	0	369,000
2.4	Support costs for Cooperating IA (US \$)		13,650	0	0	12,180	0	0	0	25,830
3.1	Total agreed funding (US \$)		665,360	0	0	563,957	0	165,632	0	1,394,949
3.2	Total support costs (US \$)		69,974	0	0	58,876	0	19,834	0	148,684
3.3	Total agreed costs (US \$)		735,334	0	0	622,833	0	185,466	0	1,543,633
4.1.1	Deductions of HFCs agreed under this Agreement (CO ₂ -eq tonnes)									461,400
4.1.2	Deductions of HFCs from previously approved projects (CO ₂ -eq tonnes)									0
4.1.3	Remaining eligible consumption for HFCs (CO ₂ -eq tonnes)									TBD

APPENDIX 3-A: FUNDING APPROVAL SCHEDULE

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

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

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

- (a) A narrative report, with data provided by tranche, describing the progress achieved since the previous report, reflecting the situation of the Country in regard to phase-down of Annex F substances, how the different activities contribute to it, and how they relate to each other, including, where applicable, activities related to energy efficiency approved in the context of HFC phase-down pursuant to decision 91/65. The report should include the amount of Annex F substances consumption reduced as a direct result of the implementation of activities, by substance, the alternative technology used and the related phase in of alternatives, to allow the Secretariat to inform the Executive Committee on the resulting change in climate relevant emissions. The report should also include quantitative information on the activities implemented and further highlight the successes, experiences, and challenges related to the different activities included in the Plan, reflecting any changes in the circumstances in the Country, and providing other relevant information. The report should also include information on and justification for any changes vis-à-vis the previously submitted Tranche Implementation Plan(s), such as delays, use of flexibility for the reallocation of funds during implementation of a tranche as provided for in paragraph 7 of this Agreement, or other changes;
- (b) An independent verification report on the Plan's results and the consumption of Annex F substances, as per subparagraph 5(b) of the Agreement. If not decided otherwise by the Executive Committee, such a verification of consumption data must be provided with each tranche request, covering all relevant years for which a verification report has not yet been acknowledged by the Committee, as specified in subparagraph 5(a) of the Agreement;
- (c) A written description of the activities to be undertaken during the period covered by the requested tranche including quantitative information, highlighting implementation milestones, the time of completion and the interdependence of the activities, and taking into account experiences made and progress achieved in the implementation of earlier tranches; the data in the Plan will be provided by calendar year. The description should include a reference to the overall Plan and progress achieved, as well as any possible changes to the overall Plan that are foreseen. The description should also specify and explain in detail such changes to the overall Plan. This description of future activities can be submitted as a part of the same document as the narrative report under subparagraph 1(a) above; and
- (d) An Executive Summary of about five paragraphs, summarizing the information contained in subparagraphs 1(a) to 1(c) above.

APPENDIX 5-A: MONITORING INSTITUTIONS AND ROLES

1. The national ozone unit (NOU), operating under the Environment Authority, will be responsible for monitoring the progress of implementation of the Plan's tranches and ensuring that the planned activities, including training, are efficiently and effectively carried out throughout the Plan's duration. In addition to monitoring overall project coordination, stakeholder engagement, and delivery of outcomes, the

NOU will facilitate verification of HFC consumption to be undertaken by the Lead IA. The Environment Authority is the institution responsible for the sustainability of consumption reduction targets achieved through this Agreement.

APPENDIX 6-A: ROLE OF THE LEAD IMPLEMENTING AGENCY

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

- (o) Timely releasing funds to the Country/participating enterprises for completing the activities related to the project.

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

APPENDIX 6-B: ROLE OF THE COOPERATING IMPLEMENTING AGENCIES

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

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

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

1. In accordance with paragraph 11 of the Agreement, the amount of funding provided may be reduced by US \$6.04 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.

Annex II

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

Category of activity	HPMP – stage III		KIP – stage I		HPMP+KIP combined cost (US \$)
	Activity	Cost (US \$)	Activity	Cost (US \$)	
Local installation and assembly					
Local installation and assembly			National survey of assemblers and installers Train 20 assemblers and installers on RAC good servicing practices One awareness-raising workshop for assemblers and installers on the latest developments and technologies in RAC manufacturing and servicing Provide tools and equipment to 20 assemblers and installers	60,693	60,693
RAC servicing					
Strengthen legal framework	Review existing and prepare new legislation to support HCFC phase-out: • Policy for mandatory leak detection • Ban on imports of second-hand HCFC-based equipment • Guidelines for labelling of containers for controlled substances Review and update the e-licensing system Provide technical support to the NOC Public awareness campaigns on regulations relating to the Montreal Protocol, the quota and licensing system, and best refrigerant servicing practices Outreach for emerging technologies in the fisheries sector	170,000	Review existing and prepare new legislation to support HFC phase-down: • Prevent illegal trade of HFCs • Ban import of HFC-based new and second-hand equipment and on non-refillable HFC cylinders • Improve standards for safe transport/storage of HFCs and alternatives Strengthen HFC quota system Introduce mandatory certification scheme for RAC specialists and enterprises Include HFC-based equipment into leakage check system Strengthen control mechanisms and refrigerant management regulations Develop “green procurement” guidelines	250,000	420,000
Customs capacity-building	Train for 60 customs and enforcement officers Provide 12 refrigerant identifiers	73,000	Train 60 customs officers on Montreal Protocol and HFC control Upgrade customs training curriculum to include HFCs, low-GWP refrigerants, new HS codes	125,000	198,000

Category of activity	HPMP – stage III		KIP – stage I		HPMP+KIP combined cost (US \$)
	Activity	Cost (US \$)	Activity	Cost (US \$)	
			Train customs trainers Train 40 enforcement officers and 40 importers and clearance agents Two border dialogues with neighbouring countries		
Technician capacity-building and support to RAC sector	Update technician training curricula Train 1,600 RAC technicians on good refrigeration practices Develop specifications for use and installation of equipment containing flammable refrigerants Provide six sets of equipment to training centres Implement the technician certification programme Provide leak detectors to 700 certified technicians Study to promote the minimum-leakage programme, including manual and website Study on energy efficiency and economic benefits of the minimum-leakage initiative	890,000	Train 360 RAC technicians on good servicing practices Update MAC training curriculum to incorporate into the national MAC certification system Train 10-15 MAC trainers and 60 MAC technicians in good servicing practices Provide MAC-related university scholarships for 25 women Provide tools and equipment to the 360 trained/certified technicians Provision of tools and equipment to 160 registered servicing workshops Support development of a national RAC/MAC association	557,500	1,447,500
Strengthen RRR network	Guidelines for refrigerant RRR for technicians and end users Study to establish a sustainable RRR infrastructure Provision of equipment to four existing centres (reclamation units, refrigerant identifiers, recovery cylinders) Awareness-raising on the RRR network	112,000	Provide technical assistance and equipment (cylinders and bulk storage tanks) to an established RRR centre for the inclusion of HFCs	45,000	157,000
Sector-specific assistance			Study of consumption and use of HFCs in aerosol, solvent, firefighting and foam sectors Study of consumption and use of HFCs in the RAC assembling sector for on-site charging and technologies relevant to the local market	30,000	30,000
Promote alternative refrigerants			Feasibility study on adapting the domestic AC sector to low-GWP alternative technologies Three sessions on latest developments and	150,596	150,596

Category of activity	HPMP – stage III		KIP – stage I		HPMP+KIP combined cost (US \$)
	Activity	Cost (US \$)	Activity	Cost (US \$)	
			technologies in collaboration with RAC associations Workshops and on-site guidance for 40 large end users to reduce leaks and transition into alternatives Establish a national refrigerant management system to track controlled substances Feasibility study on the disposal of unwanted refrigerants and develop technical roadmap for ODS destruction		
Gender mainstreaming	One workshop to develop indicator gender indicators for 20 participants Hire a gender expert to support the gender mainstreaming activities	21,364			21,364
Awareness			Targeted awareness-raising campaigns on HFCs and low-GWP technologies Information workshops for importers, distributors, service providers and compliance officers	48,000	48,000
Coordination and monitoring					
PMU	Coordination, monitoring and evaluation activities	140,472	Coordination, monitoring and evaluation activities	128,160	268,632
Total		1,406,836		1,394,949	2,801,785
Percentage of total (%)		50.2		49.8	100