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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Ninety-first Meeting
Montreal, 5-9 December 2022
Items 9(c) and (d) of the provisional agenda[1]

PROJECT PROPOSALS: SOUTH AFRICA

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

Phase-out

- HCFC phase-out management plan (stage I, fifth tranche) UNIDO
- HCFC phase-out management plan (stage II, first tranche) UNIDO

[1] UNEP/OzL.Pro/ExCom/91/1

PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS

South Africa

(I) PROJECT TITLE	AGENCY	MEETING APPROVED	CONTROL MEASURE
HCFC phase-out plan (stage I)	UNIDO (lead)	67th	35% phase-out by 2020

(II) LATEST ARTICLE 7 DATA (Annex C Group l)	Year: 2021	88.70 ODP tonnes

(III) LATEST COUNTRY PROGRAMME SECTORAL DATA (ODP tonnes)									Year: 2021
Chemical	Aerosol	Foam	Fire fighting	Refrigeration		Solvent	Process agent	Lab use	Total sector consumption
				Manufacturing	Servicing				
HCFC-22					88.30				88.30
HCFC-123					0.40				0.40
HCFC-142b					0.00				0.00

(IV) CONSUMPTION DATA (ODP tonnes)			
2009-2010 baseline:	369.7	Starting point for sustained aggregate reductions:	369.7
CONSUMPTION ELIGIBLE FOR FUNDING			
Already approved:	176.72	Remaining:	192.92

(V) ENDORSED BUSINESS PLAN		2022	2023	2024	Total
UNIDO	ODS phase-out (ODP tonnes)	4.83	0.0	0.0	4.83
	Funding (US $)	191,273	0	0	191,273

(VI) PROJECT DATA			2012	2013	2014	2015	2016	2017	2018	2019	2020 2021	2022	Total
Montreal Protocol consumption limits (ODP tonnes)			n/a	369.7	369.7	332.7	332.7	332.7	332.7	332.7	240.3	240.3	n/a
Maximum allowable consumption (ODP tonnes)			n/a	369.7	369.7	332.7	332.7	332.7	270.2	270.2	240.3	194.2 *	n/a
Agreed funding (US $)	UNIDO	Project costs	1,960,229	2,592,620	0	1,302,335	499,612	0	178,760	0	0	0	6,533,556
		Support costs	137,216	181,483	0	91,164	34,973	0	12,513	0	0	0	457,349
Funds approved by ExCom (US $)		Project costs	1,960,229	2,592,620	0	0	1,302,335 **	0	0	499,612 ***	0		6,354,796
		Support costs	137,216	181,483	0	0	91,164 **	0	0	34,973 ***	0		444,836
Total funds recommended for approval at this meeting (US $)		Project costs										178,760 ****	178,760
		Support costs										12,513 ****	12,513

* According to the Agreement for stage II.
** Tranche initially agreed for release in 2015.
*** Tranche initially agreed for release in 2016.
**** Tranche initially agreed for release in 2018.

Secretariat's recommendation:	Blanket approval

PROJECT DESCRIPTION

1. On behalf of the Government of South Africa, UNIDO as the designated implementing agency has submitted a request for funding for the fifth and final tranche of stage I of the HCFC phase-out management plan (HPMP), at the amount of US $178,760, plus agency support costs of US $12,513.[2] The submission includes a progress report on the implementation of the fourth tranche, the verification report on HCFC consumption for 2019 to 2021, and the tranche implementation plan for 2023 to 2024.

Report on HCFC consumption

2. The Government of South Africa reported a consumption of 88.70 ODP tonnes of HCFC in 2021, which is 76 per cent below the HCFC baseline for compliance. The 2017-2021 HCFC consumption is shown in table 1.

Table 1. HCFC consumption in South Africa (2017-2021 Article 7 data)

HCFC	2017	2018	2019	2020	2021	Baseline
Metric tonnes (mt)						
HCFC-22	2,216.70	2,041.88	2,010.52	1,739.29	1,605.41	3,833.90
HCFC-123	20.00	25.60	5.00	32.00	20.00	12.80
HCFC-124	0.00	0.00	0.00	0.00	0.00	-30.80
HCFC-142b	-2.40	9.30	12.60	6.72	0.00	-12.90
HCFC-141b	0.00	0.00	0.00	0.00	0.00	1,455.00
Total (mt)	**2,234.30**	**2,076.78**	**2,028.12**	**1,778.01**	**1,625.41**	**5,258.00**
ODP tonnes						
HCFC-22	121.92	112.30	110.58	95.66	88.30	210.9
HCFC-123	0.40	0.51	0.10	0.64	0.40	0.3
HCFC-124	0.00	0.00	0.00	0.00	0.00	-0.7
HCFC-142b	-0.16	0.60	0.82	0.44	0.00	-0.8
HCFC-141b	0.00	0.00	0.00	0.00	0.00	160.0
Total (ODP tonnes)	**122.16**	**113.41**	**111.50**	**96.78**	**88.70**	**369.7**

3. South Africa only consumes HCFC-22, and very small amounts of HCF-123 and HFC-142b in the refrigeration servicing sector. The decrease in the consumption of HCFC-22 is attributed to changes in the market, activities in the HPMP and controls on HCFCs, including the two bans that came into force in September 2014: on imports of any new or used refrigeration and air-conditioning (RAC) systems containing HCFCs; and on the use of HCFC-22 in the construction, assembly or installation of all new RAC systems. Furthermore, the decrease in the period 2020–2021 was intensified by the economic and logistical impact of the COVID-19 pandemic.

Country programme implementation report

4. The Government of South Africa reported HCFC sector consumption data under the 2021 country programme (CP) implementation report that was consistent with the data reported under Article 7 of the Montreal Protocol.

[2] As per the letter of 2 August 2022 from the Department of Forestry, Fisheries and the Environment (DFFE) of the Republic of South Africa to UNIDO.

Verification report

5. The independent verification undertook a detailed analysis of imports records,[3] whose results were corroborated by the Government of South Africa and UNIDO during the project review process. The verification concluded that the Government of South Africa is implementing a licensing and quota system for HCFC imports, and that it remains in compliance with the Montreal Protocol and the maximum allowable consumption established in its Agreement with the Executive Committee. However, the total consumption of HCFCs initially reported under Article 7 of the Montreal Protocol and the CP implementation report for the years 2019 to 2021 differed from the independently verified HCFC consumption.

6. A significant difference between the verified data and the Article 7 data initially reported for the years 2020 and 2021[4] was due to transcription mistakes in the final reports submitted, as explained by UNIDO. Accordingly, upon the Secretariat's request the Government of South Africa resubmitted the Article 7 and CP implementation reports for the years 2019 to 2021, as reflected in table 1, to the Ozone Secretariat and the Multilateral Fund Secretariat, respectively. While the revised data reported is largely consistent with the verification report, the Secretariat noted minor differences[5] in 2020 and 2021, attributed possibly to misinterpretation in the composition of blends.

7. The verification report also explained that minor inconsistencies encountered between the reported and the verified consumption (2019) were linked to different import dates recorded by customs and importers, errors in the use of the Harmonized System (HS) codes, and different methodologies used for rounding some figures. Accordingly, the verification report recommended procedural changes in issuing import quotas and licenses, recording and analyzing the import data provided by permit holders, timely information sharing by customs on imports, and the adoption of a unique customs tariff code for each substance, with the ASHRAE[6] number included in the description of each one, including R-290 and R-600a, to improve the control and monitoring of ozone-depleting substances (ODS) imports and uses in the country. UNIDO asserted that these recommendations would be implemented during the first tranche of stage II.

Progress report on the implementation of the fourth tranche of the HPMP

Legal instruments to control the supply and demand of HCFCs and non-investment activities

8. The Government of South Africa continues to enforce the licensing and quota system for HCFCs, updated on 11 February 2021, for more efficient monitoring of ODS uses. As of January 2022, the Customs Department of South Africa introduced the 2022 HS nomenclature. Twenty-one customs officers were trained in the use of the new system in September 2022. Bans are in place on importing all HCFC-based RAC equipment, charging HCFC-22 in new refrigeration systems assembled in the country, and releasing refrigerant into the environment.

9. Stockpiling of ODSs is effectively prohibited, and enterprises must submit a stockpile abatement plan to the Director General of the Environment if they possess ODS stocks. The ban on HCFC-141b imports, either pure or as a component of blended chemicals, has been enforced since 1 January 2016. Furthermore, environmental inspectors monitor and control RAC equipment leakages and ODS stockpiles.

[3] Including, among others, a comparison of DFFE record permits issued against the South Africa Revenue Service data, verification of importer/exporter documentation, visits to the premises of quota holders, verification of quantities imported against quotas granted, and verification on the way quota holders are reporting.

[4] The Government of South Africa initially reported 150 ODP tonnes in 2020 and 12.69 ODP tonnes in 2021.

[5] Currently, HCFC consumption reported under Article 7 in 2020 and 2021 is 96.78 and 88.70 ODP tonnes, respectively. Verified consumption in 2020 and 2021 is 97.36 and 90.33 ODP tonnes, respectively.

[6] The American Society of Heating, Refrigerating and Air-Conditioning Engineers

The environmental inspectors participated in the country stakeholder meetings and the customs train-the-trainer sessions.

Polyurethane foam sector

10. During stage I, the polyurethane (PU) foam manufacturing sector phased out 753 mt (82.83 ODP tonnes) of HCFC-141b through the conversion of two individual enterprises to cyclopentane and two systems houses and around 140 downstream users to methyl formate. In December 2019, a joint monitoring visit was conducted by the national ozone unit (NOU) and UNIDO to assess the use of the equipment and the alternatives introduced during the phase-out plan. Due to the COVID-19 pandemic, the second joint monitoring visit was postponed, and is now scheduled for November 2022.

Refrigeration servicing sector

11. The following activities were implemented in the refrigeration servicing sector:

(a) Continued support was provided to the ongoing refrigerant recovery and reclamation (RRR) scheme established during stage I in four cities, including a study tour[7] and discussions among beneficiaries and international experts on developing a business model and a strategy for increasing the low RRR rates;

(b) Policies were set by the Quality Council for Trades and Occupations to accredit the Skills Development Providers, and accreditations were assigned to two training facilities of the Air-Conditioning and Refrigeration Academy (ACRA) located in Gauteng and KwaZulu-Natal. The "Occupational Skills Programme: Refrigerant Safe Handling" programme was approved for a period of five years (6 September 2021 to 5 September 2026) at both locations. Out of the approximately 4,500 persons handling refrigerants in the servicing and repair of RAC systems and equipment, around 2,100 are registered as installers of small and medium air conditioners and servicing technicians;

(c) Training and certification[8] in good refrigeration management practices was provided by ACRA to 402 RAC servicing technicians (314 men and 88 women) from the informal sector, with a focus on communicating the availability and implications of using alternative refrigerants, as well as the safe handling of new refrigerants;

(d) Minimum technical criteria for the selection of four suitable demonstration pilot projects[9] to illustrate the use of zero-ODP, low-global-warming-potential (GWP) technologies in different applications were formulated and endorsed by the Government. The call for interest on the part of beneficiary companies was gazetted and published in national newspapers; and

(e) Consultations were conducted with industry representatives, including a feasibility study on disposable cylinders to understand the environmental and socio-economic implications of a ban before issuing a ban on imports and use non-refillable cylinders.

[7] In November 2019, representatives of RRR centres undertook a technical study tour to Dubai to gain experience in the use of reclaiming equipment and RRR practices, and to visit refrigerant filling facilities. The study tour also aimed at gaining insight into the business plans for reclaiming refrigerants and promotional strategies to get the support of industry players.

[8] According to the national RAC standard SANS 10147-2014.

[9] The demonstration pilot projects will include the following technologies: R-290 in small commercial refrigeration, R-744 trans-critical in medium and large commercial refrigeration, R-717/R-744 in cascade systems and large commercial and industrial refrigeration, and R-290 in AC chillers, cold water.

Project implementation and monitoring

12. The NOU monitors the implementation of activities under the HPMP by preparing the detailed annual implementation work plans, reviewing the quarterly implementation and financial reports, ensuring that the tranche objectives are met as planned, facilitating communication with decision makers, and ensuring timely implementation of HPMP components. The current expenditure in monitoring is US $420,000, allocated to hiring national staff and international experts (US $196,000), monitoring-related travel and meetings (US $164,000), and verification (US $60,000).

Level of fund disbursement

13. As of September 2022, of the US $6,354,796 approved so far, US $6,157,608 had been disbursed for UNIDO, as shown in table 2. The balance of US $197,188 will be fully disbursed by 31 December 2023.

Table 2. Financial report of stage I of the HPMP for South Africa (US $)

Funding tranche	Funds approved	Funds disbursed	Disbursement rate (%)	Fund balance
First	1,960,229	1,960,229	100	0
Second	2,592,620	2,592,620	100	0
Third	1,302,335	1,302,335	100	0
Fourth	499,612	302,424	60.5	197,188
Total	**6,354,796**	**6,157,608**	**97**	**197,188**

Implementation plan for the fifth and final tranche of stage I of the HPMP

14. The following activities will be implemented in the refrigeration servicing sector by UNIDO between January and December 2023:

(a) Continuing to support the ongoing process towards enforcing a national ban on non-refillable cylinders by conducting a national survey and technical needs assessment on equipment; and assessing the ban's impact on economic growth, socio-economic conditions and the environment (US $35,000);

(b) Providing technical support to strengthen and improve the RRR scheme by conducting a field study to identify and assess new possible RRR partners to ensure wider geographical coverage and access to reclamation facilities; providing additional training to the operators of existing RRR centres; monitoring RRR centre operations; and assessing the data reporting issues in relation to reclaimed quantities (US $111,760);

(c) Continuing to implement the four pilot projects to demonstrate energy and cost savings obtained from the operation of systems using zero-ODP, low-GWP refrigerant-based systems in comparison to HFC- or HCFC-22-based systems; organizing four thematic workshops in the cities or regions where the demonstration projects are being implemented, with relevant Ministers in attendance; publishing the pilot project findings online, including final reports, case studies, and promotional material; and sharing results with stakeholders (remaining budget from previous tranches);

(d) Raising awareness and holding three meetings with 50 stakeholders each to coordinate efforts in the implementation of the HPMP (US $32,000); and

(e) Assisting in the monitoring and implementation of project activities, such as organizing quarterly meetings and workshops for the NOU and stakeholders; supporting cooperation with national stakeholders; aiding in the organization of the RAC sector training sessions; and supporting the NOU through technical advice and training if required (no funds requested).

SECRETARIAT'S COMMENTS AND RECOMMENDATION

COMMENTS

Report on HCFC consumption

15. In discussing the reasons for the significant inconsistencies between the verified consumption and the Article 7 reports initially submitted for 2020 and 2021, UNIDO indicated the need to build the NOU's capacity to report actual consumption in an accurate manner, as part of stage II. While the figures reported do not reflect a deficiency in the licensing and quota system but rather a deficiency in the process of reporting consumption, during the project review process the Secretariat recommended the resubmission of the consumption reports as soon as possible. At the time of issuance of the present document, these reports had been revised. The revised data reported for 2020 and 2021 was still slightly lower than the verified consumption possibly due misinterpretation in the composition of blends. The Secretariat encouraged UNIDO to continue supporting the Government of South Africa to revise these small differences and resubmit the Article 7 and CP reports for these two years.

Progress report on the implementation of the fourth tranche of the HPMP

Request for the extension of stage I

16. UNIDO explained that an extension of the duration of stage I to 31 December 2023 was being requested because of the slow pace of disbursement of the previous tranches. The disbursement delays had been caused by the complexity of completing the conversion of the PU foam sector, which comprised several small and medium-sized enterprises. Establishing an effective coordination mechanism between the NOU, UNIDO and the main stakeholders took time, and subsequently the remaining activities in the servicing sector could not be implemented as planned in 2020 and 2021 because of the COVID-19 pandemic. UNIDO emphasized that during the implementation of stage I, the certification process for RAC technicians had begun and two technical schools had acquired certification as official providers of the training course for technicians in the informal sector. Furthermore, the technology demonstration projects are ongoing, the RRR network is operational but needs adjustments, coordination with stakeholders to ban the use of refillable cylinders is in progress, and further studies and consultations are required. The Secretariat considers that the requested extension will provide the time required to complete the planned activities for the first stage.

Legal framework

17. The Government of South Africa has already issued HCFC import quotas for 2022 at 169.08 ODP tonnes, which is 30 per cent lower than the Montreal Protocol control targets and 13 per cent lower than the maximum level allowable under the Agreement with the Executive Committee. Annual quotas for all years were established by Regulation No. 37621 of 8 May 2014. However, the Government is considering revising the quota system during stage II.

Refrigeration servicing sector

18. In discussing the status of operation of the RRR scheme and its sustainability, UNIDO reported that there were five fully operational RRR centres. One of the centres was completely self-funded, while the other four had received equipment, cylinders and tools, as well as technical support for the operation of equipment and for developing an economic model for self-sufficiency. The centres indicated that refrigerants had been collected and processed, but no updated official figures had been submitted to the NOU. Consequently, UNIDO and the Government of South Africa are considering mandatory reporting measures to ensure proper monitoring of the amounts of refrigerant recovered and reclaimed. Furthermore, extensive consultations have been conducted with industry representatives on banning the use of disposable

cylinders for refrigerants and on possible future legal requirements for the purchase of refrigerants, but consensus has not been reached. Consensus-building on these matters will continue during implementation of the fifth tranche.

19. With regard to the demonstration projects to illustrate the use of non-ODS-based, low-GWP alternatives, UNIDO explained that other activities had been given priority, such as the RRR scheme, the ban on imports of RAC equipment since 1 July 2014 and a ban on the installation of new systems charged with HCFCs since 1 January 2015. The establishment of these regulatory measures in combination with the increase in the price of HCFC-22 during the last three years would provide support to the project. In addition, the demonstration projects are supported by the ongoing training activities, which have an emphasis on the use of low-GWP alternatives. A formal selection process to determine project beneficiaries was being implemented to ensure the sustainability and transparency of the project. UNIDO also clarified that the provision of co-financing (in-kind) would be part of the selection criteria for beneficiaries, and that the environmentally friendly disposal of replaced equipment would include the recovery of refrigerant before its destruction.

Gender policy implementation[10]

20. Gender mainstreaming efforts have continued with positive results. Out of the 402 RAC servicing technicians who completed the ACRA training, 88 were women. These participants were featured in video interviews. Collected gender-disaggregated data indicates the following breakdown of trainees: out of 270 technicians trained in Gauteng Province 191 were male and 79 were female; and out of 132 technicians trained in KwaZulu Natal 123 were male and nine were female.

Sustainability of the HCFC phase-out and assessment of risks

21. The verified HCFC consumption levels of South Africa from 2019 to 2021 indicate that the country continues to be in compliance with the Montreal Protocol and the Agreement between the Government and the Executive Committee. South Africa has also completed the implementation of the PU foam sector plan, achieving the total phase-out of HCFC-141b by 1 January 2016, and conducts activities to ensure the sustainability of conversions, including random visits to importers and converted enterprises. In addition, the Government of South Africa continues to enforce the HCFC licensing and quota system, including by adopting the 2022 HS tariff codes. With the monitoring support of the Department of the National Regulator for Compulsory Specifications, the additional set of regulations established in 2014 to reduce the use of HCFCs in the servicing sector is being enforced. The Customs Department has incorporated ODS controls into the regular training of new customs officers, while refresher training provides customs and enforcement officers with updated information on the latest developments brought about by HPMP activities.

22. The established technicians' certification scheme has been focused on enabling informal technicians operating in the sector to meet the minimum good-practice requirements. The technician certification system will, in the long term, help the Government of South Africa ensure that technicians providing servicing have the required knowledge and hands-on experience. Encouraging the ban on the import and use of refrigerants in non-refillable cylinders would prevent the release of refrigerant left in disposable cylinders when discarded, estimated at more than 40,000 cylinders per annum. In addition, the five RRR centres operating in the country's main cities will continue to help reduce HCFC-22 consumption, and the Government will keep providing technical support and monitoring to increase their efficacy. The fifth tranche will complete the four demonstrations of low-GWP alternatives in RAC applications, postponed from the previous tranches. The sustained increase in the price of HCFC-22 since 2019, together

[10] In line with decision 84/92(d), decision 90/48(c) encouraged bilateral and implementing agencies to continue ensuring that the operational gender mainstreaming policy was applied to all projects, taking into consideration the specific activities presented in table 2 of document UNEP/OzL.Pro/ExCom/90/37.

with the ban on the imports of RAC equipment and on installing HCFC-based systems, are expected to create the conditions for potential replication of the end-user projects within the commercial RAC sector.

Conclusion

23. A 68.5 per cent reduction from baseline consumption of HCFCs was achieved in 2021. The Government of South Africa continues to be highly committed to developing the private sector's ownership of HCFC phase-out, and to the enforcement of the adopted HCFC control measures. The country has an operational RRR scheme with five operators, and a technician certification scheme has been established with local institutions. The fifth tranche is required to provide support for the approval and enforcement of a national ban on the import and use of non-refillable refrigerant cylinders, to ensure continued support for the RRR scheme, and to engage in raising awareness to introduce low-GWP technology.

RECOMMENDATION

24. The Fund Secretariat recommends that the Executive Committee:

(a) Take note of the progress report on the implementation of the fourth tranche of stage I of the HCFC phase-out management plan (HPMP) for South Africa and the request of extension of stage I to 31 December 2023;

(b) Approve the extension of stage I up to 31 December 2023, on the understanding that no further extension would be requested; and

(c) Request:

(i) The Government of South Africa to resubmit data under Article 7 of the Montreal Protocol and country programme implementation reports for the years 2020 and 2021; and

(ii) UNIDO to submit a final progress report on the implementation of the work programme associated with the final tranche, and the project completion report to the second meeting of the Executive Committee in 2024.

25. The Fund Secretariat further recommends blanket approval of the fifth and final tranche of stage I of the HPMP for South Africa, and the corresponding 2023-2024 tranche implementation plan, at the funding level shown in the table below:

	Project title	**Project funding (US $)**	**Support costs (US $)**	**Implementing agency**
(a)	HCFC phase-out management plan (stage I, fifth tranche)	178,760	12,513	UNIDO

PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS

South Africa

(I) PROJECT TITLE	AGENCY
HCFC phase-out plan (stage II)	UNIDO (lead)

(II) LATEST ARTICLE 7 DATA (Annex C Group l)	Year: 2021	88.70 ODP tonnes

(III) LATEST COUNTRY PROGRAMME SECTORAL DATA (ODP tonnes)									Year: 2021
Chemical	Aerosol	Foam	Fire-fighting	Refrigeration		Solvent	Process agent	Lab use	Total sector consumption
				Manufacturing	Servicing				
HCFC-22					88.30				88.30
HCFC-123					0.40				0.40
HCFC-142b					0.00				0.00

(IV) CONSUMPTION DATA (ODP tonnes)			
2009-2010 baseline:	369.7	Starting point for sustained aggregate reductions:	369.7
CONSUMPTION ELIGIBLE FOR FUNDING			
Already approved:	176.72	Remaining:	192.92

(V) ENDORSED BUSINESS PLAN		2022	2023	2024	Total
UNIDO	ODS phase-out (ODP tonnes)	2.52	7.50	2.52	12.54
	Funding (US $)	234,949	1,225,636	234,949	1,695,534

(VI) PROJECT DATA			2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Montreal Protocol consumption limits (ODP tonnes)			240.31	240.31	240.31	120.15	120.15	120.15	120.15	120.15	0.0	n/a
Maximum allowable consumption (ODP tonnes)			194.18	185.00	148.00	120.15	110.00	90.00	9.24	9.24	0.0	n/a
Project costs requested in principle (US $)	UNIDO	Project costs	2,993,125	0	0	2,676,043	0	2,027,707	0	993,125	0	8,690,000
		Support costs	209,519	0	0	187,323	0	141,939	0	69,519	0	608,300
Total project costs recommended in principle (US $)			2,993,125	0	0	2,676,043	0	2,027,707	0	993,125	0	8,690,000
Total support costs recommended in principle (US $)			209,519	0	0	187,323	0	141,939	0	69,519	0	608,300
Total funds recommended in principle (US $)			3,202,644	0	0	2,863,366	0	2,169,646	0	1,062,644	0	9,298,300

(VII) Request for approval of funding for the first tranche (2022)		
Implementing agency	**Funds recommended (US $)**	**Support costs (US $)**
UNIDO	2,993,125	209,519
Total	**2,993,125**	**209,519**

Secretariat's recommendation:	Individual consideration

PROJECT DESCRIPTION

Background

26. On behalf of the Government of South Africa, UNIDO as the designated implementing agency has submitted a request for stage II of the HCFC phase-out management plan (HPMP), at the amount of US $8,690,000, plus agency support costs of US $608,300, as originally submitted.[11] The implementation of stage II of the HPMP will phase out 99.00 ODP tonnes of HCFCs and assist the country in meeting the targets of 67.5 per cent reduction in HCFC baseline consumption by 2025, 97.5 per cent reduction by 2028, and total phase-out in 2030.

27. The first tranche of stage II of the HPMP being requested at this meeting amounts to US $4,041,250, plus agency support costs of US $282,888 for UNIDO, as originally submitted.

Status of implementation of stage I of the HPMP

28. Stage I of the HPMP for South Africa was approved at the 67th meeting[12] to phase out 176.72 ODP tonnes of HCFCs used in the polyurethane (PU) foam sector and the refrigeration and air-conditioning (RAC) servicing and manufacturing sectors, and to meet the 35 per cent reduction from the baseline by 2020, at a total cost of US $6,533,556, plus agency support costs.

29. An overview of the implementation of stage I, including the analysis of HCFC consumption; progress and financial reports on the implementation; and the request for the fifth and final tranche submitted to the current meeting, is available in paragraphs 2 to 23 of the present document.

Stage II of the HPMP

Remaining consumption eligible for funding

30. After deducting 176.72 ODP tonnes of HCFCs associated with stage I of the HPMP, the remaining consumption eligible for funding amounts to 192.92 ODP tonnes of HCFCs. The country is requesting US $8,690,000 to phase out 99.0 ODP tonnes, i.e., the average reported HCFC consumption for the years 2019 to 2021.

Sector distribution of HCFCs

Manufacturing and assembly sector

31. All refrigeration appliances made in South Africa use low-global-warming-potential (GWP) refrigerants and blowing agents. HCFC-based equipment is not manufactured in South Africa and imports have been banned, but HCFC-22-based installations can still be found in commercial and industrial applications, where these systems are designed and built on-site from widely available components. However, this is becoming less common, and there is no evidence to suggest that any new systems using HCFC-22 have been installed in the last 18 months. Furthermore, there is no mass production of air conditioners or heat pumps in South Africa.

Servicing sector

32. The number of technicians in South Africa is estimated at 4,000 to 5,000; many are not registered. The current use of HCFC-22 in the country is in the servicing of domestic, commercial, and industrial air

[11] As per the letter of 19 August 2022 from the Department of Forestry, Fisheries and the Environment of the Republic of South Africa to UNIDO.
[12] Decision 67/30

conditioners; transport refrigeration units (refrigerated containers); and large commercial refrigeration equipment, mainly in the cold chain. Small quantities of HCFC-123 are used in the servicing of industrial chillers. The distribution of consumption of HCFCs and HFCs among sectors was obtained from official registers of imported RAC equipment and is shown in table 4.

Table 4. Sector distribution of the consumption of halogenated refrigerants in the servicing sector

Application	Description	Halogenated refrigerant consumption by sub-sector(%)						
		HCFC-22	R-410A	HFC-134a	R-404A	R-507A	R-407C	R-407F
Light commercial and residential air-conditioning (AC)	Unitary and split air conditioners up to 18 kW installed in residential homes, restaurants, hotels, guest houses, offices, shops and others	3.49	86.89	0.85	0	0	1.14	0
Commercial AC	Systems with air-handling units and chillers or large VRF (variable refrigerant flow) systems above 18 kW installed in hospitals, hotels, office buildings, shopping malls, cinemas, and fitness centres	17.76	13.11	17.29	0	0	98.86	0
Commercial refrigeration	Light commercial refrigeration: under-bar fridges, vending cabinets, display cabinets, small cold rooms in restaurants, hotels, convenience stores, fast food outlets, retail butchers, florists, food processors, catering industry. Large commercial refrigeration: supermarkets with plant rooms, fruit and vegetable pack houses, food manufacturers, wineries, and others (charge larger than 100 kg)	70.22	0	59.53	94.77	59.45	0	64.40
Industrial refrigeration and process cooling	Cooling in petrochemical, food processing, injection moulding, brewing, etc., and installation of water chillers	6.15	0	8.79	4.13	40.38	0	35.60
Transport refrigeration	Refrigerated commercial road vehicles	0.05	0	0.20	0.55	0.09	0	0
Marine refrigeration	Fishing vessels, deep sea trawlers, foreign-owned fishing vessels fishing in South African waters, stevedore services to visiting vessels	1.65	0	0.45	0.55	0	0	0
Mine cooling	Cooling of underground mines	0.34	0	0.65	0	0.08	0	0
Mobile AC	Passenger cars, luxury coaches and passenger buses, earth-moving equipment, driver cabins of overhead cranes, airport apron buses	0.34	0	12.24	0	0	0	0
Total		**100**	**100**	**100**	**100**	**100**	**100**	**100**

Phase-out strategy in stage II of the HPMP

33. Stage II of the HPMP will focus on the following four main areas: strengthening the policy and regulatory framework to control the supply and demand of HCFCs; non-investment activities to support control of HCFC import and use; further strengthening the capacity of the refrigeration servicing sector; and awareness raising.

34. The priorities will be minimizing consumption of HCFC-22 in large installations that are stoking demand in the commercial RAC servicing and other sectors; addressing the issues of refrigerant leakage and need for reclamation through legislative action; creating a legal framework for technicians, owners, and operators of RAC equipment to regulate the use of refrigerants and reduce atmospheric emissions; and proper labelling and registration of RAC installations in the industrial and commercial sectors.

Proposed activities in stage II of the HPMP

35. Stage II proposes the following activities to be implemented by UNIDO:

Policy and regulatory framework and enforcement:

(a) Strengthening the application of the licensing and quota system for HCFCs and HFCs, and products and equipment based on those controlled substances, including the revision of procedures to adopt the recommendations from the verification report (US $500,000);

(b) Strengthening the regulatory framework for refrigerant management by adopting new regulations on selling and buying refrigerants by trained and certified technicians and servicing enterprises and workshops; imposing mandatory leak detection and registration of RAC systems,[13] labelling of refrigerants, record-keeping, monitoring and reporting by equipment owners; making the refrigerant recovery and reclamation (RRR) scheme mandatory, including quarterly reports on the quantities of recovered, reclaimed and reused refrigerants and stocks of unusable refrigerants; and developing, adopting, or revising standards, codes and norms that could facilitate the adoption, operation and servicing of refrigeration technologies based on low-GWP refrigerants, including a national code of practice for hydrocarbon (HC), ammonia (NH_3) and carbon dioxide (CO_2) use (US $120,000);

(c) Reviewing and periodically updating the curricula of the training programmes for customs and enforcement officers addressing their obligations under the Montreal Protocol, including the Kigali Amendment and the 2022 Harmonized Customs Tariff; training of at least 60 customs and enforcement officers on the revised legislation and procedures; organizing regional cross-border dialogue meetings with bordering countries to prevent illegal import and trade of HCFCs; acquiring 20 ozone-depleting substances (ODS) identifiers (US $175,000);

(d) Organizing consultation meetings, training and information sharing with main stakeholders on the revised legislation and procedures, standards and codes, and capacity building for environmental inspectors to monitor and control refrigerant uses (US $50,000);

Technical assistance to the servicing sector

(e) Acquiring and distributing 2,400 sets[14] of tools, equipment and consumables to technicians who successfully complete training and obtain certification to support good practices and the safe handling of flammable refrigerants (US $3,120,000);

(f) Providing training and certification in good servicing practices and the safe handling of flammable refrigerants for 2,200 technicians (including a training manual, materials, and personal protective equipment) (US $2,750,000);

(g) Strengthening the capacity of vocational training organizations and certification bodies through the provision of six training rigs for simulating HC-, NH_3- and CO_2-based RAC systems; reviewing the curricula regarding good servicing practices and safety issues related to the flammability and toxicity of refrigerants being phased in; and training of 100 trainers in collaboration with RAC associations (US $620,000);

[13] For equipment with initial refrigerant charge greater than 3 kg.

[14] The tentative list includes recovery units, vacuum pumps, R-290/R-600a manifold gauge sets, electronic leak detectors suited to R-290/R-600a, vacuum gauges, map brazing gas sets, and basic tools.

(h) Developing a business model study for establishing local refrigerant cylinder filling facilities and supplying 3,000 refillable refrigerant cylinders to support the ban on the import and use of non-refillable cylinders (subject to the study outcomes) (US $357,500);

Stakeholder engagement and awareness raising:

(i) Organizing yearly meetings to discuss and review the ongoing aspects of HCFC phase-out and HFC phase-down[15] as a collaboration between the national ozone unit (NOU) and the established HPMP stakeholder groups (including *inter alia* Government institutions, refrigeration associations, vocational training institutes, importers and distributors, and end-users.) (US $217,500**)**; and

(j) Developing and implementing awareness-building campaigns by publishing information material and organizing eight roadshows in different cities to provide information to local stakeholders on alternative technologies and revised regulations and codes of practice, identify opportunities for enhancing the RRR scheme, and engage additional regional training institutes in the training programme (US $280,000).

Project monitoring and implementation

36. The system established under stage I of the HPMP will continue into stage II. The NOU, embedded within the Department of Forestry, Fisheries and the Environment (DFFE) of the Government of South Africa is responsible for the overall project coordination, assessment and monitoring, in close collaboration with a formal stakeholder group. The NOU submits annual progress reports on the status of HPMP implementation to UNIDO, which in turn conducts annual missions to monitor the achievement of the HPMP performance targets. The cost of those activities amounts to US $500,000 and includes the international and national experts (US $372,800), monitoring-related travel (US $53,000), and coordination meetings (US $74,200).

Gender policy implementation[16]

37. The participation and involvement of women, whether as participants, trainees, or experts, is encouraged in all workshops, meetings, training sessions, study tours, and other relevant initiatives undertaken as part of stage II. Data collected from participation lists and other gender-disaggregated data and qualitative information will be made available to analyze and track gender issues.

Total cost of stage II of the HPMP

38. The total cost of stage II of the HPMP for South Africa has been estimated at US $8,690,000, plus agency support costs, as originally submitted, to achieve the following accelerated reduction steps: 47.5 per cent in 2022, 50 per cent in 2023, 60 per cent in 2024, 67.5 per cent in 2025, 70.2 per cent in 2026, 75.7 per cent in 2027, 97.5 per cent in 2028 and 2029, and 100 per cent in 2030.

[15] The subjects to be discussed include: reviewing available technologies and providing advice and guidance on the selection of alternatives, including demonstration projects; identifying barriers to the introduction of alternative refrigerants and technologies and proposing activities to remove them; recommending enhancements to local capacity to operate with alternatives that minimize climate impact; evaluating options to reduce refrigerant charges throughout the process of equipment design, assembly, and installation; developing recommended incentives to encourage owners to improve equipment performance and energy use; identifying ways of measuring, reducing and preventing refrigerant loss from larger systems; and providing workshops on the legislative framework.

[16] In line with decision 84/92(d), decision 90/48(c) encouraged bilateral and implementing agencies to continue ensuring that the operational gender mainstreaming policy was applied to all projects, taking into consideration the specific activities presented in table 2 of document UNEP/OzL.Pro/ExCom/90/37.

Activities planned for the first tranche of stage II

39. The first funding tranche of stage II of the HPMP as requested in the total amount of US $4,041,250 will be implemented between January 2023 and December 2024 and will include the following activities:

(a) *Policy and regulatory framework*: Strengthening the licensing and quota system for HCFCs and HFCs, and products and equipment based on those controlled substances, including the revision of procedures to adopt the recommendations from the verification report; revising, or adopting standards, codes and norms that could facilitate the adoption, operation and servicing of refrigeration technologies based on low-GWP refrigerants, including a national code of practice for HC, NH_3 and CO_2 use (US $376,000);

(b) *Refrigeration servicing sector*: Training and certifying at least 1,000 RAC technicians in good servicing practices; and procuring approximately 1,600 tool sets for trained technicians (US $3,356,250);

(c) *Stakeholder engagement and awareness raising:* Organizing yearly meetings with all relevant stakeholders (i.e., Government institutions, refrigeration associations, vocational training institutes, importers and distributors, end-users, etc.) to discuss and review the ongoing aspects of HCFC phase-out between the NOU and the HPMP stakeholder group; and organizing one roadshow per year to provide information to local stakeholders on alternative technologies and revised regulations and codes of practice, identify opportunities for enhancing the RRR scheme, and engage additional regional training institutes in the training programme (US $99,000); and

(d) *Project coordination and management*: Monitoring activities, commissioning verification reports, and providing coordination and technical assistance (US $210,000), including international and national experts (US $156,576), monitoring-related travel (US $22,260), and coordination meetings (US $31,164).

SECRETARIAT'S COMMENTS AND RECOMMENDATION

COMMENTS

40. The Secretariat reviewed stage II of the HPMP in light of stage I, the policies and guidelines of the Multilateral Fund, including the criteria for funding HCFC phase-out in the consumption sector for stage II of HPMPs (decision 74/50), and the 2022-2024 business plan of the Multilateral Fund.

Overarching strategy

41. The Government of South Africa is committed to achieve the following accelerated reduction steps: 47.5 per cent in 2022, 50 per cent in 2023, 60 per cent in 2024, 67.5 per cent in 2025, 70.2 per cent in 2026, 75.7 per cent in 2027, 97.5 per cent in 2028 and 2029, and 100 per cent in 2030.

42. Given the set of activities proposed in the refrigeration servicing sector, which will extend for the entire period of the implementation of stage II, as well as the early commitment to reduce 97.5 per cent of the consumption by 1 January 2028, the Secretariat considers appropriate that stage II of the HPMP for South Africa extends to the total HCFC phase-out, rather than having stage II up to 2025 and a final stage later.

43. As stage II is proposed for total HCFC phase-out by 1 January 2030, in line with decision 86/51, to allow for consideration of the final tranche of its HPMP, the Government of South Africa agreed to submit a detailed description of the regulatory and policy framework in place to implement measures to

ensure that HCFC consumption was in compliance with paragraph 8 ter (e)(i) of Article 5 of the Montreal Protocol for the period 2030–2040, as well as proposed modifications to its Agreement with the Executive Committee covering the period beyond 2030 if the country intends to have consumption during the 2030-2040 period, in line with paragraph 8 ter (e)(i) of Article 5 of the Montreal Protocol.

HCFC consumption reporting

44. Noting that the verification report submitted with the fifth tranche request for stage I of the HPMP identified several areas of improvement in the reporting of HCFC consumption data[17] (e.g., transcription mistakes in reporting the data, errors in the use of the Harmonized System (HS) codes, reporting of blends, and different methodologies used for rounding some figures), the Secretariat considers that building capacity to accurately report HCFC consumption data can be implemented during the first tranche of stage II since it contains a component aimed at strengthening the quota and licensing system, including reporting. Accordingly, the Secretariat recommends that the second tranche request includes an update on the improvement of the consumption reporting process and the confirmation of the resubmission of the reports for the years 2020 and 2021.

Technical and cost-related issues

45. The Secretariat noted with appreciation the extensive infrastructure created during stage I of the HPMP for South Africa, including a fully operational RRR scheme with five operators and a fully operational technician qualification and certification scheme. However, considering the delays suffered in the implementation of stage I, the Secretariat and UNIDO discussed ways to ensure timely completion of stage II, which includes a more ambitious plan for the servicing sector and a larger budget. UNIDO reassured the Secretariat that the activities could be implemented in the available time given the infrastructure already created and the nature of some of the activities under stage II. For instance, three major activities represent more than 70 per cent of the budget: certifying approximately 75 per cent of technicians, providing tools and equipment to certified technicians, and acquiring training equipment for vocational institutions. UNIDO has extensive experience in the procurement of tools and equipment for the servicing sector and does not envisage major contingencies. Once stage II is approved, a training and certification time frame will be established to ensure a timely procurement of tools and equipment for distribution to certified technicians. Furthermore, the implementation plan includes the recruitment of a full-time project manager to support the implementation of stage II and coordinating efforts with relevant stakeholders to promote their involvement for continual support. UNIDO will conduct annual monitoring missions and provide technical support, hiring experts as necessary.

46. Noting the increasing presence of HFCs in the market, the Secretariat enquired about the main barriers to a broader adoption of zero- and low-GWP alternatives in the RAC sector. UNIDO reported that, although the situation in South Africa reflected the global markets trend, the country had adopted low-GWP technology and refrigerants, especially in the large industrial NH_3 applications. Safety concerns associated with flammability and toxicity remain the main barrier to the adoption of zero- and low-GWP alternatives by the RAC industry in South Africa. Key components of stage II, such as the update of safety standards, the increase in the number of technicians certified in flammable refrigerants, the distribution of tools and equipment, and the awareness-building activities are intended to help remove this barrier to adopting low-GWP alternatives.

47. The Secretariat notes that most of the resources in the plan are allocated to the training and certification of technicians and the provision of tools and equipment to certified technicians and vocational institutes to facilitate adoption of low-GWP alternatives, while the remaining funds are allocated to strengthening the legal framework and provision of awareness support activities. With regard to the strengthening of the licensing and quota system, estimated at a total cost of US $500,000, UNIDO indicated

[17] Paragraphs 6 and 7 of the present document.

that it included the modifications to the application of the licensing and quota system in line with the recommendations of the verification report, and associated consultations with Government entities and the private sector. However, noting the large amount of funds allocated to this activity and upon discussion on the identified needs in the country, UNIDO also included the development of the electronic licensing, quota and reporting system, which, among other benefits, would reduce the human factor errors in preparing the Article 7 and country programme (CP) reports. It was agreed that only US $75,000 would be allocated to assess, reinforce, update and monitor the current licensing and quota system as per the recommendations of the verification report, and US $155,000 were estimated to be needed to develop the electronic licensing, quota and reporting system, including training Government officers and importers in the use of the electronic system and periodic updates to the system. The remaining US $270,000 initially allocated to this project were reallocated to the training activity to increase the expected number of trained and certified technicians from 2,200 to at least 3,000.

Total project cost

48. The total cost for stage II of the HPMP amounts to US $8,690,000, as shown in table 5.

Table 5. The agreed cost of stage II of the HPMP for South Africa

Component	Funding requested (US $)	Funding agreed (US $)
Policy and regulatory framework and enforcement		
Assess and strengthen the application of the licensing and quota system	500,000	75,000
Develop and operate an e-licensing system; train Government officials and importers on the operation of the system	0	155,000
Strengthen the regulatory framework for refrigerant management, including updates to the current legislation and development of safety standards	120,000	120,000
Review and periodically update the curricula of training programmes for customs and enforcement officers; provide 10 ODS identifiers	175,000	175,000
Organize consultation meetings, training, and information sharing with main stakeholders	50,000	50,000
Sub-total for the policy and regulatory framework and enforcement	**845,000**	**575,000**
Refrigeration servicing sector – technical assistance		
Provide tools and equipment for 2,400 technicians	3,120,000	3,120,000
Train and certify at least 3,000 technicians; provide materials and protection equipment	2,750,000	3,020,000
Strengthen the capacity of vocational training organizations and certification bodies by providing six sets of training equipment, updating the curricula and training 100 trainers	620,000	620,000
Develop a business model study for establishing local refrigerant cylinder filling facilities; supply 3,000 refillable cylinders to facilitate the ban on the import and use of non-refillable cylinders (subject to the study outcomes)	357,500	357,500
Sub-total for the refrigeration servicing sector – technical assistance	**6,847,500**	**7,117,500**
Stakeholder engagement and awareness raising		
Organize yearly meetings between the NOU and the HPMP stakeholder group	217,500	217,500
Develop and implement awareness campaigns by publishing information material and organizing eight roadshows	280,000	280,000
Sub-total for the stakeholder engagement and awareness raising	**497,500**	**497,500**
Project monitoring and implementation	500,000	500,000
Grand total	**8,690,000**	**8,690,000**

49. The cost was calculated based on the average HCFC consumption reported over the last three years (i.e., 1,810.51 mt). The cost-effectiveness of phasing out 99.00 ODP tonnes of HCFCs is US $4.80 per kg. It is noted that from the remaining eligible consumption of 192.92 ODP tonnes, the Government of South Africa has already achieved additional reductions for 93.92 ODP tonnes at no additional cost for the Fund.

50. The Secretariat discussed with UNIDO the proposed tranche distribution for stage II, noting the importance of ensuring a balanced distribution to meet the country's need to acquire tools and equipment in a timely manner, achieve the accelerated phase-out as proposed, and sustain activities up to 2030. Based on these consultations, it was agreed to have four tranches rather than three, as shown in table 6. It was also agreed that the final tranche should be released in 2029 rather than 2030, as a large part of the activities would need to be implemented earlier than 1 January 2028, when the sustained reduction of 97.5 per cent of the HCFC consumption baseline will be achieved.

Table 6. Original and revised tranche distribution for stage II of the HPMP for South Africa (US $)

Funding	2022	2023	2024	2025	2026	2027	2028	2029	2030
As submitted									
Project costs	4,041,250	0	3,861,750	0	787,000	0	0	0	0
Support costs	282,888	0	270,322	0	55,090	0	0	0	0
Total as submitted	**4,324,138**	**0**	**4,132,072**	**0**	**842,090**	**0**	**0**	**0**	**0**
As revised									
Project costs	2,993,125	0	0	2,676,043	0	2,027,707	0	993,125	0
Support costs	209,519	0	0	187,323	0	141,939	0	69,519	0
Total as revised	**3,202,644**	**0**	**0**	**2,863,366**	**0**	**2,169,646**	**0**	**1,062,644**	**0**

Activities planned for the first tranche

51. The revised funding for the first tranche of stage I and the associated activities are presented below:

(a) *Policy and regulatory framework*: Strengthening the licensing and quota system and developing an electronic licensing, quota and reporting system (US $115,000), training 40 customs and enforcement officers (US $40,625); purchasing 20 ODS identifiers (US $100,000); developing and updating the ODS management regulations and codes of practice on HC, NH_3, and CO_2, including consultations with stakeholders (US $60,000) (total of US $315,625);

(b) *Refrigeration servicing sector*: Purchasing 1,200 sets of equipment and tools for technicians (US $1,560,000); purchasing three units of training equipment and HC, NH_3, and CO_2 training rigs (US $120,000); training 40 trainers in new developments and emerging technologies in cooperation with the RAC association (US $100,000); certifying 600 servicing technicians (US $600,000) (total of US $2,380,000);

(c) *Awareness raising and stakeholder meetings:* Organizing two national roadshows at different locations to provide information to local stakeholders on alternative technologies and revised regulations and codes of practice, identify opportunities for enhancing the RRR scheme, and engage additional regional training institutes in the training programme; and facilitating two stakeholder group meetings for the coordination of activities to promote the results of activities carried out (US $172,500); and

(d) *Project monitoring and implementation*: International and national experts (US $75,000), monitoring-related travel (US $25,000), and coordination meetings (US $25,000) (total of US $125,000).

Impact on the climate

52. The activities proposed in the servicing sector, which include better containment of refrigerants through training and the provision of equipment, will reduce the amount of HCFC-22 used for RAC servicing. Each kilogram of HCFC-22 not emitted due to better refrigeration practices results in savings of approximately 1.8 CO_2-equivalent tonnes. Although a calculation of the impact on the climate was not included in the HPMP, the activities planned by South Africa, including its efforts to promote low-GWP

alternatives, as well as refrigerant RRR and the banning of non-refillable cylinders, indicate that the implementation of the HPMP will reduce the emission of refrigerants into the atmosphere, resulting in climate benefits.

Sustainability of the HCFC phase-out and assessment of risks

53. South Africa is monitoring HCFC uses to ensure compliance with the national ODS Regulations and seeking the collaboration of main stakeholders. The DFFE's compliance department conducts yearly inspection visits to relevant RAC facilities and foam manufacturing factories. Awareness-raising among importers, and customs and enforcement officer training have contributed to strengthen the enforcement of the licensing and quota system. Periodical training organized by the NOU in cooperation with the customs ensures that all new customs officers receive timely training despite high turnover rates. Cross-border dialogue and cooperation with bordering countries is planned for the prevention of illegal trade.

54. South Africa is also focused on developing self-sustained activities, like the RRR network and the promotion of using refillable cylinders with participation of the private sector. During stage I, in addition to the Government regulations, the project provided equipment, capacity building, and technical support to develop the business model and working strategy for the RRR centres. In the case of encouraging the use of refillable cylinders, numerous steps have also been taken during the implementation of stage I, from discussions and coordination with the importers and industry to feasibility studies, taking into account the whole value chain. Stage II proposes the development of a business case, including cost and revenue models, to assess the necessary investments to establish a facility for refilling refrigerants in the country, which would be paid for and operated by the private sector. Technical assistance, financial support and monitoring are still required to become fully sustainable in stage II.

55. Although alternative technologies are available in the country, their limited use has been assessed as a matter of costs, safety concerns and lack of awareness among private actors. The DFFE understands that the certification of servicing technicians operated by local institutions and the adoption of standards and codes of practice to manage low-GWP alternatives would accelerate their uptake and pave the way for the sustainability of HCFC phase-out and future work related to the HFC phase-down.

Co-financing

56. The Government of South Africa will provide personnel and logistical support through the NOU and customs and enforcement officers as in-kind support for stage II of the HPMP.

2022-2024 draft business plan of the Multilateral Fund

57. UNIDO is requesting US $8,690,000, plus agency support costs, for the implementation of stage II of the HPMP for South Africa. The total requested value of US $3,202,644, including agency support costs for the period 2022–2024, is US $1,507,110 above the amount in the business plan.

Draft Agreement

58. A draft Agreement between the Government of South Africa and the Executive Committee for stage II of the HPMP is contained in Annex I to the present document.

RECOMMENDATION

59. The Executive Committee may wish to consider:

(a) Approving, in principle, stage II of the HCFC phase-out management plan (HPMP) for South Africa for the period from 2022 to 2030 for the complete phase-out of HCFC consumption, in the amount of US $8,690,000, plus agency support costs of US $608,300 for UNIDO, on the understanding that no more funding from the Multilateral Fund would be provided for the phase-out of HCFCs;

(b) Noting the commitment of the Government of South Africa to reduce HCFC consumption by 47.5 per cent in 2022, 50 per cent in 2023, 60 per cent in 2024, 67.5 per cent in 2025, 70.2 per cent in 2026, 75.7 per cent in 2027, 97.5 per cent in 2028 and 2029, and to completely phase out HCFCs by 1 January 2030, and that HCFCs would not be imported after that date, except for those allowed for a servicing tail between 2030 and 2040, when required, consistent with the provisions of the Montreal Protocol;

(c) Deducting 192.92 ODP tonnes of HCFCs from the remaining HCFC consumption eligible for funding;

(d) Approving the draft Agreement between the Government of South Africa and the Executive Committee for the reduction in consumption of HCFCs, in accordance with stage II of the HPMP, contained in Annex I to the present document;

(e) That, to allow for consideration of the final tranche of its HPMP, the Government of South Africa should submit:

(i) A detailed description of the regulatory and policy framework in place to implement measures to ensure that HCFC consumption was in compliance with paragraph 8 ter (e)(i) of Article 5 of the Montreal Protocol for the period 2030-2040; and

(ii) If South Africa were intending to have consumption during the period 2030–2040, in line with paragraph 8 ter (e)(i) of Article 5 of the Montreal Protocol, the proposed modifications to the Agreement between the Government of South Africa and the Executive Committee covering the period beyond 2030;; and

(f) Approving the first tranche of stage II of the HPMP for South Africa, and the corresponding tranche implementation plan, in the amount of US $4,041,250, plus agency support costs of US $282,888 for UNIDO, on the understanding that UNIDO would include in the progress reports submitted with the request for the second tranche an update on the improvement of the process for reporting HCFC consumption and the confirmation of the resubmission of the data reports under Article 7 of the Montreal Protocol and country programme implementation for the years 2020 and 2021 by the Government of South Africa.

Annex I

DRAFT AGREEMENT BETWEEN THE GOVERNMENT OF THE REPUBLIC OF SOUTH AFRICA AND THE EXECUTIVE COMMITTEE OF THE MULTILATERAL FUND FOR THE REDUCTION IN CONSUMPTION OF HYDROCHLOROFLUOROCARBONS IN ACCORDANCE WITH STAGE II OF THE HCFC PHASE-OUT MANAGEMENT PLAN

Purpose

1. This Agreement represents the understanding of the Government of the Republic of South Africa (the "Country") and the Executive Committee with respect to the reduction of controlled use of the ozone-depleting substances (ODS) set out in Appendix 1-A ("The Substances") to a sustained level of zero ODP tonnes by 1 January 2030 in compliance with Montreal Protocol schedule.

2. The Country agrees to meet the annual consumption limits of the 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 all 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 the Substances that exceeds the level defined in row 1.2 of Appendix 2-A as the final reduction step under this Agreement for all of the Substances specified in Appendix 1-A, and in respect to any consumption of each of the Substances that exceeds the level defined in rows 4.1.3, 4.2.3, and 4.4.3 (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 the stage II of the HCFC phase-out management plan (HPMP) approved ("the Plan"). In accordance with sub-paragraph 5(b) of this Agreement, the Country will accept independent verification of the achievement of the annual consumption limits of the Substances as 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 eight 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 the form of 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 the form of Appendix 4-A covering each calendar year until and including the year for which the funding 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 of the approved funds, according to the evolving circumstances to achieve the smoothest reduction of consumption and phase-out of the Substances specified in Appendix 1-A:

(a) Reallocations categorized as major changes must be documented in advance either in a Tranche Implementation Plan as foreseen in sub-paragraph 5(d) above, or as a revision to an existing Tranche Implementation Plan to be submitted eight 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 which would modify any clause of this Agreement;

(iii) Changes in the annual levels of funding allocated to 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; and

(v) Changes in alternative technologies, on the understanding that any submission for such a request would identify the associated incremental costs, the potential impact to the climate, and any differences in ODP tonnes to be phased out if applicable, as well as confirm that the Country agrees that potential savings related to the change of technology would decrease the overall funding level under this Agreement accordingly;

(b) Reallocations not categorized as major changes may be incorporated in the approved Tranche Implementation Plan, under implementation at the time, and reported to the Executive Committee in the subsequent Tranche Implementation Report; and

(c) Any remaining funds held by the bilateral or implementing agencies or the Country under the Plan will be returned to the Multilateral Fund upon completion of the last tranche foreseen under this Agreement.

Considerations for the refrigeration servicing sector

8. Specific attention will be paid to the execution of the activities in the refrigeration servicing sector included in the Plan, in particular:

(a) The Country would use the flexibility available under this Agreement to address specific needs that might arise during project implementation; and

(b) The Country and relevant bilateral and/or implementing agencies would take into consideration relevant decisions on the refrigeration servicing sector during the implementation of the Plan.

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. UNIDO has agreed to be the lead implementing agency (the "Lead IA") in respect of the Country's activities under this Agreement. The Country agrees to evaluations, which might be carried out under the monitoring and evaluation work programmes of the Multilateral Fund or under the evaluation programme of the Lead IA taking part in this Agreement.

10. The Lead IA will be responsible for ensuring coordinated planning, implementation and reporting of all activities under this Agreement, including but not limited to independent verification as per sub-paragraph 5(b). The role of the Lead IA is contained in Appendix 6-A. The Executive Committee agrees, in principle, to provide the Lead IA with the fees set out in row 2.2 of Appendix 2-A.

Non-compliance with the Agreement

11. Should the Country, for any reason, not meet the Targets for the elimination of the 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 of 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 ODP kg of reductions in consumption not achieved in any one year. The Executive Committee will discuss each specific case in which the Country did not comply with this Agreement, and take related decisions. Once decisions are taken, the specific case of non-compliance with this Agreement will not be an impediment for the provision of funding for future tranches as per paragraph 5 above.

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

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

Date of completion

14. The completion of the Plan and the associated Agreement will take place at the end of the year following the last year for which a maximum allowable total consumption level has been specified in

Appendix 2-A. Should at that time there still be activities that are outstanding, and which were foreseen in the last Tranche Implementation Plan and its subsequent revisions as per sub-paragraph 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 sub-paragraphs 1(a), 1(b), 1(d), and 1(e) 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 of the 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

Substance	Annex	Group	Starting point for aggregate reductions in consumption (ODP tonnes)
HCFC-22	C	I	210.9
HCFC-123	C	I	0.3
HCFC-124	C	I	-0.7
HCFC-141b	C	I	160
HCFC-142b	C	I	-0.8
Total	C	I	369.7

APPENDIX 2-A: THE TARGETS, AND FUNDING

Row	Particulars	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
1.1	Montreal Protocol reduction schedule of Annex C, Group I substances (ODP tonnes)	240.31	240.31	240.31	120.15	120.15	120.15	120.15	120.15	0.0	n/a.
1.2	Maximum allowable total consumption of Annex C, Group I substances (ODP tonnes)	194.18	185.00	148.00	120.15	110.00	90.00	9.24	9.24	0.0	n/a.
2.1	Lead IA (UNIDO) agreed funding (US $)	2,993,125	0	0	2,676,043	0	2,027,707	0	993,125	0	8,690,000
2.2	Support costs for Lead IA (US $)	209,519	0	0	187,323	0	141,939	0	69,519	0	608,300
3.1	Total agreed funding (US $)	2,993,125	0	0	2,676,043	0	2,027,707	0	993,125	0	8,690,000
3.2	Total support costs (US $)	209,519	0	0	187,323	0	141,939	0	69,519	0	608,300
3.3	Total agreed costs (US $)	3,202,644	0	0	2,863,366	0	2,169,646	0	1,062,644	0	9,298,300

Row	Particulars	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
4.1.1	Total phase-out of HCFC-22 agreed to be achieved under this Agreement (ODP tonnes)										194.18
4.1.2	Phase-out of HCFC-22 to be achieved in the previous stage (ODP tonnes)										16.72
4.1.3	Remaining eligible consumption for HCFC-22 (ODP tonnes)										0.00
4.2.1	Total phase-out of HCFC-123 agreed to be achieved under this Agreement (ODP tonnes)										0.26
4.2.2	Phase-out of HCFC-123 to be achieved in the previous stage (ODP tonnes)										0.0
4.2.3	Remaining eligible consumption for HCFC-123 (ODP tonnes)										0.0
4.3.1	Total phase-out of HCFC-124 agreed to be achieved under this Agreement (ODP tonnes)										*-0.68
4.3.2	Phase-out of HCFC-124 to be achieved in the previous stage (ODP tonnes)										0.0
4.3.3	Remaining eligible consumption for HCFC-124 (ODP tonnes)										0.0
4.4.1	Total phase-out of HCFC-141b agreed to be achieved under this Agreement (ODP tonnes)										0.0
4.4.2	Phase-out of HCFC-141b to be achieved in the previous stage (ODP tonnes)										160.00
4.4.3	Remaining eligible consumption for HCFC-141b (ODP tonnes)										0.0
4.5.1	Total phase-out of HCFC-142b agreed to be achieved under this Agreement (ODP tonnes)										*-0.84
4.5.2	Phase-out of HCFC-142b to be achieved in the previous stage (ODP tonnes)										0.0
4.5.3	Remaining eligible consumption for HCFC-142b (ODP tonnes)										0.0

*Explained by exports larger than imports in the baseline year. Value deducted from the remaining eligible consumption
Date of completion of stage I as per stage I Agreement: 31 December 2021; to be extended to 31 December 2023

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 TRANCHE IMPLEMENTATION REPORTS AND PLANS

1. The submission of the Tranche Implementation Report and Plans for each tranche request will consist of five 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 out of the Substances, how the different activities contribute to it, and how they relate to each other. The report should include the amount of ODS phased out as a direct result from the implementation of activities, by substance, and the alternative technology used and the related phase-in of alternatives, to allow the Secretariat to provide to the Executive Committee information about the resulting change in climate relevant emissions. The report should further highlight 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, uses of the flexibility for 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 of the Plan results and the consumption of the Substances, as per sub-paragraph 5(b) of the Agreement. If not decided otherwise by the Executive Committee, such a verification has to be provided together with each tranche request and will have to provide verification of the consumption for all relevant years as specified in sub-paragraph 5(a) of the Agreement for which a verification report has not yet been acknowledged by the Committee;

(c) A written description of the activities to be undertaken during the period covered by the requested tranche, 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 also 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 sub-paragraph (b) above;

(d) A set of quantitative information for all Tranche Implementation Reports and Plans, submitted through an online database; and

(e) An Executive Summary of about five paragraphs, summarizing the information of the above sub-paragraphs 1(a) to 1(d).

2. In the event that in a particular year two stages of the HPMP are being implemented in parallel, the following considerations should be taken in preparing the Tranche Implementation Reports and Plans:

(a) The Tranche Implementation Reports and Plans referred to as part of this Agreement, will exclusively refer to activities and funds covered by this Agreement; and

(b) If the stages under implementation have different HCFC consumption targets under Appendix 2-A of each Agreement in a particular year, the lower HCFC consumption target will be used as reference for compliance with these Agreements and will be the basis for the independent verification.

APPENDIX 5-A: MONITORING INSTITUTIONS AND ROLES

1. The National Ozone Unit (NOU) is the central administrative unit established within the administrative structure of the Ministry of the Environment, responsible for the coordination of governmental activities with respect to ozone layer protection and facilitation of ODS phase-out. The NOU will be responsible for the overall coordination of national activities toward the Plan implementation. The management of the implementation of the planned project activities will be allocated to the NOU in cooperation with the Lead IA. An independent and certified auditor will audit and verify the consumption of ODS reported by the Government through Article 7 and country programme implementation reports.

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 HPMP;

(b) Assisting the Country in 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 is reflected in updates of the overall plan and in future Tranche Implementation Plans consistent with sub-paragraphs 1(c) and 1(d) of Appendix 4-A;

(e) Fulfilling the reporting requirements for the Tranche Implementation Reports and Plans and the overall plan as specified in Appendix 4-A for submission to the Executive Committee;

(f) In the event that the last funding tranche is requested one or more years prior to the last year for which a consumption target had been established, annual tranche implementation reports and, where applicable, verification reports on the current stage of the Plan should be submitted until all activities foreseen had been completed and HCFC consumption targets had been met;

(g) Ensuring that appropriate independent technical experts carry out the technical reviews;

(h) Carrying out required supervision missions;

(i) Ensuring the presence of an operating mechanism to allow effective, transparent implementation of the Tranche Implementation Plan and accurate data reporting;

(j) In case of reductions in funding for failure to comply in accordance with paragraph 11 of the Agreement, to determine, in consultation with the Country, the allocation of the reductions to the different budget items and to the funding of the Lead IA;

(k) Ensuring that disbursements made to the Country are based on the use of the indicators;

(l) Providing assistance with policy, management and technical support when required; and

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

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

APPENDIX 7-A: REDUCTIONS IN FUNDING FOR FAILURE TO COMPLY

1. In accordance with paragraph 11 of the Agreement, the amount of funding provided may be reduced by US $90.08 per ODP kg 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.

2. In the event that the penalty needs to be applied for a year in which there are two Agreements in force (two stages of the HPMP being implemented in parallel) with different penalty levels, the application of the penalty will be determined on a case-by-case basis taking into consideration the specific sectors that lead to the non-compliance. If it is not possible to determine a sector, or both stages are addressing the same sector, the penalty level to be applied would be the largest.