



**United Nations
Environment
Programme**

Distr.
GENERAL

UNEP/OzL.Pro/ExCom/80/49
24 October 2017

ORIGINAL: ENGLISH



EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Eightieth Meeting
Montreal, 13-17 November 2017

PROJECT PROPOSAL: SUDAN (THE)

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

Phase-out

- HCFC phase-out management plan (stage I, third tranche)

UNIDO

**PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS
SUDAN (THE)**

(I) PROJECT TITLE	AGENCY	MEETING APPROVED	CONTROL MEASURE
HCFC phase-out plan (stage I)	UNIDO (lead)	66 th	30% by 2017

(II) LATEST ARTICLE 7 DATA (Annex C Group I)	Year: 2016	42.07 (ODP tonnes)
--	------------	--------------------

(III) LATEST COUNTRY PROGRAMME SECTORAL DATA (ODP tonnes)								Year: 2016	
Chemical	Aerosol	Foam	Fire fighting	Refrigeration		Solvent	Process agent	Lab use	Total sector consumption
				Manufacturing	Servicing				
HCFC-141b		30.87							30.87
HCFC-22					11.20				11.20

(IV) CONSUMPTION DATA (ODP tonnes)			
2009 - 2010 baseline:	52.70	Starting point for sustained aggregate reductions:	50.60
CONSUMPTION ELIGIBLE FOR FUNDING (ODP tonnes)			
Already approved:	16.15	Remaining:	34.45

(V) BUSINESS PLAN		2017	Total
UNIDO	ODS phase-out (ODP tonnes)	0.43	0.43
	Funding (US \$)	42,800	42,800

(VI) PROJECT DATA			2010	2011	2012	2013	2014	2015	2016	2017	Total
Montreal Protocol consumption limits			n/a	n/a	n/a	52.70	52.70	47.43	47.43	47.43	n/a
Maximum allowable consumption (ODP tonnes)			n/a	n/a	n/a	52.70	52.70	47.43	42.13	36.89	n/a
Agreed funding (US\$)	UNIDO	Project costs	1,056,341		250,000		110,000			40,000	1,456,341
		Support costs	79,226		18,750		7,700			2,800	108,476
Funds approved by ExCom (US\$)		Project costs	1,056,341	0	250,000	0	110,000	0	0	0.0	1,416,341
		Support costs	79,226	0	18,750	0	7,700	0	0	0.0	105,676
Total funds requested for approval at this meeting (US\$)		Project costs								40,000	40,000
		Support costs								2,800	2,800

Secretariat's recommendation:	Blanket approval
-------------------------------	------------------

PROJECT DESCRIPTION

1. On behalf of the Government of the Sudan, UNIDO as the designated implementing agency has submitted a request for funding for the third and final tranche of stage I of the HCFC phase-out management plan (HPMP), at the amount of US \$40,000, plus agency support costs of US \$2,800.¹ The submission includes a progress report on the implementation of the second tranche, the verification report on HCFC consumption and the tranche implementation plan for 2018.

Report on HCFC consumption

HCFC consumption

2. The Government of the Sudan reported a consumption of 42.07 ODP tonnes of HCFC in 2016, which was 20.2 per cent below the baseline and slightly below the maximum allowable consumption of 42.13 under its Agreement with the Executive Committee for that year. The 2012-2016 HCFC consumption is shown in Table 1.

Table 1. HCFC consumption in the Sudan (2012-2016 Article 7 data)

HCFC	2012	2013	2014	2015	2016	Baseline
Metric tonnes						
HCFC-22	253.0	207.0	229.09	209.78	203.58	218.50
HCFC-141b	409.0	362.33	364.54	320.47	280.67	369.50
Total (mt)	662.0	569.33	593.63	530.25	484.25	588.00
ODP tonnes						
HCFC-22	13.92	11.39	12.59	11.54	11.20	12.02
HCFC-141b	45.00	39.86	40.09	35.25	30.87	40.65
Total (ODP tonnes)	58.92	51.24	52.68	46.79	42.07	52.70

3. All HCFC-22 consumption occurs in the refrigeration and air-conditioning (RAC) servicing sector. The major uses are for servicing split air-conditioning units and commercial refrigerators. HCFC-141b is used for the production of polyurethane (PU) foam and insulation foam for refrigeration equipment.

Country programme (CP) implementation report

4. The Government of the Sudan reported HCFC sector consumption data under the 2016 CP implementation report that is consistent with the data reported under Article 7.

Verification report

5. The verification report has confirmed that the Government is implementing a licensing and quota system for HCFC imports and exports, and that the total consumption of HCFC for 2015 and 2016 was 46.79 ODP tonnes and 42.07 ODP tonnes, respectively, which was consistent with the reported data under Article 7 of the Montreal Protocol.

¹ As per the letter of 22 August 2017 from the Higher Council for Environment and Natural Resources of the Sudan to the Secretariat.

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

Legal framework

6. The National Ozone Unit (NOU) is established within the Ministry of Industry, and is supervised by the Higher Council for Environment and Natural Resources (HCENR), and supported by the National Committee (NC) for the Implementation of the Montreal Protocol.

7. The licensing and quota system for HCFC import control is implemented in collaboration between the NOU and the general customs authority. The efficiency of the import control has been further improved by developing a shared electronic database on quotas and actual imports. Import documents have to be submitted to customs and the NOU.

Manufacturing sector

8. The manufacturing sector phase-out is being implemented at the four PU-foaming companies. The umbrella project covered four locally-owned enterprises using HCFC-141b as a blowing agent in the manufacture of domestic refrigerators and freezers (two companies) and insulated panels (two companies). The conversions at Modern Refrigeration Factory (domestic refrigerators and freezers) and Amin Panels Co. (insulated composite panels) have been completed and the old equipment has been destroyed. The conversions at Coldair (domestic refrigerators and freezers) and Akadabi Steel (insulated panels and slabstocks) companies are ongoing and are expected to be finalised in 2017. The four companies selected pentane as a replacement for HCFC-141b. The completion of the conversion of these four enterprises will result in a phase-out of 107.9 mt (11.87 ODP tonnes) of HCFC-141b, representing over 23 per cent of the total HCFC consumption in 2013.

Refrigeration servicing sector

9. Fourteen portable multi-refrigerant identifiers were distributed (four for training purposes and 10 to the Sudan Customs Administration). Twenty-one training sets of servicing equipment (i.e., vacuum pumps, recovery machines, drying filter, recovery cylinders, piercing valves, bottles of cooling oil, and nitrogen cylinders) were purchased for the Sudan University for Science and Technology (SUST); 260 technicians from refrigeration servicing workshops were trained and certified on the Montreal Protocol implementation mechanism in the Sudan, retrofitting, recovery and recycling best practices in the servicing of RAC equipment, and perceived future technological developments in refrigeration sector and development of low-global-warming potential (GWP) substances; four professionals received training on low-GWP alternatives.

10. Four hundred participants, including Government officials, importers, technicians and civil society, took part in the celebration of the International Day for the Preservation of the Ozone Layer; and there was continued exchange of information between the NOU and stakeholders.

Project implementation and monitoring unit (PMU)

11. The NOU is supported by the PMU for the implementation of HCFC quotas for registered and licensed importers, for coordination and interaction with beneficiary enterprises on project implementation, and for day-to-day management of the HPMP activities.

Level of fund disbursement

12. As of September 2017, of the US \$1,416,341 approved so far, US \$1,416,224 had been disbursed, as shown in Table 2. The balance of US \$116 will be disbursed in 2017.

Table 2. Financial report of stage I of the HPMP for the Sudan (US \$)

Agency	Foam sector projects*		First tranche		Second tranche		Total approved	
	Approved	Disbursed	Approved	Disbursed	Approved	Disbursed	Approved	Disbursed
UNIDO	1,056,341	1,056,341	250,000	250,000	110,000	109,883	1,416,341	1,416,224
Disbursement rate (%)	100		100		99.89		99.99	

*Approved as stand-alone investment projects, and subsequently subsumed into stage I of the HPMP approved at the 66th meeting.

Implementation plan for the third tranche of the HPMP

13. The following activities will be implemented:
- (a) Completion of the umbrella project in the PU foam sector including the recruitment of consultants on ventilation, proper ducting, and on regulatory safety issues, including development of guidelines on transporting and storing hydrocarbons (HCs) in collaboration with SUST (US \$20,000);
 - (b) Training of one technician on HC handling in Germany (US \$11,000); and
 - (c) Procurement of three training equipment kits (e.g., hand assembly tools, connectors and flare-fittings) related to HC and other non-ODS substances (US \$9,000).

SECRETARIAT'S COMMENTS AND RECOMMENDATION

COMMENTS

Report on HCFC consumption

14. Noting that the consumption reported in Article 7 showed that HCFC-22 consumption in 2016 was only 0.4 ODP tonnes below the starting point for aggregated reduction in HCFC-22 consumption of 11.6 ODP tonnes, UNIDO has indicated that the importation of HCFC-22-based equipment is decreasing and will contribute to the reduction of HCFC-22 imports in coming years.

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

Legal framework

15. The Government of Sudan has already issued HCFC import quotas for 2017 at 36.86 ODP tonnes.

Manufacturing sector

16. Of the four foam companies to be converted, two (Coldair and Akadabi Steel) are ongoing and expected to be completed in 2017. The implementation was delayed because the technical interventions had to take into account the need for the companies to continue business operations. UNIDO advised that the equipment supplier has prepared detailed installation and commissioning schedules, and confirmed that the conversion at both enterprises will be completed in 2017.

Refrigeration servicing sector

17. With regard to the long-term sustainability of the training programmes, the country has developed a partnership with the SUST (Department of Mechanical Engineering), the main standard research and training institution in the Sudan, setting all the training standards downstream. Under the previous tranche, training equipment was provided to the SUST and 900 students were trained in recovery, recycling and

retrofit operations. Given the high turnover of the refrigerant technicians, it is essential that the partnership be maintained to ensure the sustainability of the training activities.

18. With respect to retrofitting to flammable refrigerants of equipment not designed to operate with flammable refrigerants (decisions 72/17 and 73/34), the Secretariat was informed that the concerned officials as well as technical representatives of SUST and the Association of refrigeration and air-conditioning technicians have participated in seminars and workshops on safe handling of natural refrigerants, including HC and ammonia. However, retrofitting current HCFC-containing equipment to HC or ammonia is not a technically recommended solution and therefore not formally supported. UNIDO confirmed that the Government is not undertaking retrofitting activities to HC in the country. Regarding the new HC-containing equipment and its maintenance, the training curricula covers the issue of flammability.

Conclusion

19. The Secretariat notes that the country's import licensing and quota system is operational, however no quota was set for 2017. The verified 2015 and 2016 consumption levels are consistent with the maximum allowable consumption in the Agreement with the Executive Committee. The planned activities for stage I of the HPMP are progressing and funds approved so far have been almost fully disbursed. The remaining activities in the manufacturing sector, planned under stage I of the HPMP, will be completed in 2017; overall activities under stage I of the HPMP will be completed by December 2018; and the project completion report will be submitted by June 2019. The activities already implemented and those planned under the third and last tranche will further strengthen the servicing sector and ensure the long-term sustainability of the activities.

RECOMMENDATION

20. The Fund Secretariat recommends that the Executive Committee takes note of the progress report on the implementation of the third tranche of stage I of the HCFC phase-out management plan (HPMP) for the Sudan; and further recommends blanket approval of the third and final tranche of stage I of the HPMP for the Sudan, and the corresponding 2018 tranche implementation plan, at the funding level shown in the table below:

	Project title	Project funding (US \$)	Support cost (US \$)	Implementing agency
(a)	HCFC phase-out management plan (stage I, third tranche)	40,000	2,800	UNIDO