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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Seventy-seventh Meeting
Montreal, 28 November - 2 December 2016

PROJECT PROPOSAL: SAUDI ARABIA

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, fourth tranche) UNIDO and UNEP

PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS

Saudi Arabia

(I) PROJECT TITLE	AGENCY	MEETING APPROVED	CONTROL MEASURE
HCFC phase-out plan (Stage I)	UNEP, UNIDO (lead)	68th	40% by 2020

(II) LATEST ARTICLE 7 DATA (Annex C Group I)	Year: 2015	1,305.45 (ODP tonnes)
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(III) LATEST COUNTRY PROGRAMME SECTORAL DATA (ODP tonnes)								Year: 2015	
Chemical	Aerosol	Foam	Fire fighting	Refrigeration		Solvent	Process agent	Lab use	Total sector consumption
				Manufacturing	Servicing				
HCFC-22				483.48	599.22				1,082.70
HCFC-141b		222.75							222.75

(IV) CONSUMPTION DATA (ODP tonnes)			
2009 - 2010 baseline:	1,468.7	Starting point for sustained aggregate reductions:	1,468.7
CONSUMPTION ELIGIBLE FOR FUNDING (ODP tonnes)			
Already approved:	703.29	Remaining:	765.41

(V) BUSINESS PLAN		2016	2017	2018	2019	2020	Total
UNEP	ODS phase-out (ODP tonnes)	0	5.6	0	0	2.6	8.2
	Funding (US \$)	0	138,378	0	0	63,920	202,298
UNIDO	ODS phase-out (ODP tonnes)	80.4	38.7	47.7	18.2	8.5	193.5
	Funding (US \$)	1,890,262	909,500	1,120,691	428,000	198,574	4,547,027

(VI) PROJECT DATA			2012	2013	2014	2015	2016	2017	2018	2019	2020	Total
Montreal Protocol consumption limits			n/a	1,468.7	1,468.7	1,321.8	1,321.8	1,321.8	1,321.8	1,321.8	954.7	n/a
Maximum allowable consumption (ODP tonnes)			n/a	1,468.7	1,378.4	1,321.8	1,321.8	1,321.8	980.8	980.8	881.2	n/a
Agreed funding (US \$)	UNEP	Project costs	290,400	0	0	250,400	0	123,125	0	0	56,875	720,800
		Support costs	35,973	0	0	31,018	0	15,253	0	0	7,045	89,288
	UNIDO	Project costs	2,169,600	2,971,487	1,200,000	1,766,600	850,000	1,047,375	400,000	185,583	170,625	10,761,270
		Support costs	151,872	208,004	84,000	123,662	59,500	73,316	28,000	12,991	11,944	753,289
Funds approved by ExCom (US \$)	Project costs	2,460,000		2,971,487	1,200,000							6,631,487
	Support costs	187,845		208,004	84,000							479,849
Total funds requested for approval at this meeting (US \$)	Project costs					2,017,000*						2,017,000
	Support costs					154,680*						154,680

(*) The fourth tranche should have been submitted in 2015

Secretariat's recommendation:	For individual consideration
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PROJECT DESCRIPTION

1. On behalf of the Government of Saudi Arabia, UNIDO as the lead implementing agency, has submitted to the 77th meeting a request for funding for the fourth tranche of stage I of the HCFC phase-out management plan (HPMP), at a total cost of US \$2,171,680, consisting of US \$1,766,600, plus agency support costs of US \$123,662 for UNIDO, and US \$250,400, plus agency support costs of US \$31,018 for UNEP.¹ The submission includes a progress report on the implementation of the third tranche, the verification report on HCFC consumption and the tranche implementation plan for 2016 to 2017.

Report on HCFC consumption

HCFC consumption

2. The Government of Saudi Arabia reported a consumption of 1,305.45 ODP tonnes of HCFC in 2015 under Article 7 data of the Montreal Protocol. The 2011-2015 HCFC consumption is shown in Table 1.

Table 1. HCFC consumption in Saudi Arabia (2011-2015 Article 7 data)

HCFC	2011	2012	2013	2014	2015	Baseline
Metric tonnes (mt)						
HCFC-22	22,172.00	24,315.00	20,216.00	20,397.66	19,685.37	18,393.45
HCFC-123	14.00	16.00	0.00	76.94	0.00	9.50
HCFC-141b	3,557.00	3,912.00	2,696.00	2,302.00	2,025.00	3,100.00
HCFC-142b	2,150.00	2,365.00	389.00	0.00	0.00	1,782.46
Total HCFCs (mt)	27,893.00	30,608.00	23,301.00	22,776.60	21,710.37	23,285.52
ODP tonnes						
HCFC-22	1,219.46	1,337.33	1,111.88	1,121.87	1,082.70	1,011.64
HCFC-123	0.28	0.32	0.00	1.54	0.00	0.19
HCFC-141b	391.27	430.32	296.56	253.22	222.75	341.00
HCFC-142b	139.75	153.73	25.29	0.00	0.00	115.86
Total HCFCs (ODP tonnes)	1,750.76	1,921.69	1,433.73	1,376.63	1,305.45	1,468.69

3. The decrease of HCFC consumption in 2015 (i.e., 11.1 per cent below the baseline in ODP tonnes) is attributed to the conversion of polyurethane (PU) foam enterprises, stringent enforcement of licensing and quota system, and an increased awareness by all stakeholders, including relevant Government bodies and end-users.

Verification report

4. The verification report confirmed that the Government is implementing a licensing and quota system for HCFC imports and that the total consumption of HCFCs for 2015 was 1,305.45 ODP tonnes. The verification concluded that Saudi Arabia is in compliance with the allowable consumption established in the Agreement with the Executive Committee.

¹ As per the letter of 2 October 2016 from the General Authority of Meteorology and Environmental Protection of Saudi Arabia to UNIDO.

Country programme (CP) implementation report

5. The Government of Saudi Arabia reported HCFC sector consumption data under the 2015 CP implementation report which is consistent with the data reported under Article 7 of the Montreal Protocol.

Progress report on the implementation of the third tranche of the HPMP*Legal framework*

6. The national ODS regulations is being updated in line with the Unified Regulations on Ozone Depleting Substances for Gulf Cooperation Council (GCC) States for monitoring and controlling ODS. The consultation process for the adoption of the national regulations has been completed; the package is awaiting the final endorsement by the environmental minister and is expected to be adopted during the first half of 2017.

7. Cooperation and continuous communication between the national ozone unit (NOU) and Customs are ensured through the national ozone committee and the joint coordination committee. Regular meetings and visits take place to follow-up on relevant joint work, including the licensing system. However, the cooperation and continuous communication with customs would benefit from being institutionalized through a binding, long-term agreement. The signature of such an agreement would mainly support capacity-building activities.

8. The ban on the installation of new capacity to manufacture with HCFCs was established in 2013, and the ban on import and use of HCFC-142b has been established as of 1 January 2014. However, a revised schedule for the ban on HCFCs and products containing HCFCs and other regulatory measures has been proposed as presented in Table 2.

Table 2. Tentative schedule of regulatory measures

Proposed action	Original date	Updated date
Development of an e-licensing system	Early 2016	December 2017
Mandatory recovery and recycling of HCFCs and other ODS refrigerant	30 June 2016	1 January 2017
License/certification required for purchasing refrigerant	1 January 2017	End of 2017
Ban on import of new or used refrigeration and air-conditioning (RAC) systems or equipment containing HCFC-22 or any refrigerant or refrigerant blend containing HCFC	1 January 2017	Ban on used equipment already implemented. Ban on new equipment is postponed
Ban on import of HCFC-22 either pure or in blends, for the purpose of placing on the market, assembling or installing new refrigeration equipment	30 June 2018	30 June 2018
Ban on import of HCFC-141b either pure or as a component of blended chemicals for the purpose of placing on the market or use in the production of PU foams, solvents or any other application	1 January 2018	1 January 2018
Ban on disposable refrigerant cylinders	Prior to submission of the 4 th tranche	End 2016 or 2017; sales one year later

9. The delay in implementing the ban on new air-conditioning equipment containing HCFC-22 or HCFC-blends was due to concerns about the limited availability of low global warming potential (GWP) alternatives, particularly for small-size applications, suitable for use in high-ambient temperatures.

Activities in the extruded polystyrene (XPS) foam manufacturing sector

10. Activities in two XPS foam enterprises eligible for funding² and two enterprises not eligible are summarized below:

- (a) Arabian Chemical Company (ACC) completed the conversion of all three manufacturing lines (only one funded by the Multilateral Fund) to isobutane and carbon dioxide (CO₂) in April 2015, with a phase-out of 27.5 ODP tonnes of HCFC-22 and 6.5 ODP tonnes of HCFC-142b;
- (b) Al-Watania Plastics has stopped XPS production while it completes its conversion due to the import ban on HCFC-142b in effect since 1 January 2014. The enterprise decided to build a new building to accommodate the refurbished production line, which was expected to be completed in February 2017. The static mixer and dye of the extruder had been sent to Italy for refurbishment (20 October 2016) and are expected to be installed in March 2017. The enterprise will be converted to a blend of isobutane, CO₂ and HFO-1234ze, resulting in the phase-out of 7.5 ODP tonnes of HCFC-22 and 13.3 ODP tonnes of HCFC-142b; and
- (c) Bitutherm converted with its own resources to a mixture HFC-152a and dimethyl ether (DME). The enterprise is considering purchasing a new extruder line based on CO₂ blowing technology. Saptex initially replaced HCFCs with its own resources with HFC-152a and DME and subsequently is using a mixture of HFC-134a, HFC-152a and DME. The enterprise will use CO₂ blowing technology for its new production line. The conversion of these two enterprises resulted in the phase-out of 42.6 ODP tonnes of HCFC-22 and 83.0 ODP tonnes of HCFC-142b.

Activities in the PU rigid foam manufacturing sector

11. The first tranche of the HPMP included the conversion of three PU foam manufacturing enterprises to pentane technology, namely HESCO, Saptex, and SPF. The equipment required for the conversion was procured but held at Customs until the three enterprises agreed to pay import tax and demurrage fees, which delayed project implementation. The equipment was delivered to HESCO and SPF in September 2015 and to Saptex in November 2015.

12. HESCO experienced a fire, which affected the entire foam production of the facility, and resulted in the enterprise shutting down its operations. HESCO was not able to provide a timeline for the planned installation of the equipment required for the conversion to pentane technology as the enterprise had not yet decided whether it would resume operations in Saudi Arabia. The settlement of the insurance claim was expected by the end of 2016, at which point the enterprise would be in a position to decide whether to resume operations.

13. With regard to SPF, the enterprise has procured a new foam production line for pentane, currently being delivered and installed in a new factory building. To sustain its operations the enterprise decided to run the HCFC-141b-based manufacturing line until the new line is commissioned and fully operational, which is expected by the end of 2016. Conversion of the enterprise will result in the phase-out of 5.5 ODP tonnes of HCFC-141b.

² Projects approved at the 62nd meeting for the implementation by UNIDO and the Government of Japan with an associated phase-out of 180.6 ODP tonnes of HCFC-22 and HCFC-142b at a funding level of US \$1,938,901 plus agency support costs (decision 62/35).

14. With regard to Saptex, the equipment was delivered on 29 November 2015; however, a detailed inspection from the supplier in March 2016 found several equipment items beyond repair. While the equipment was insured by the supplier, the policy expired before the supplier was informed on the damage and the containers reached Saptex; as the damage had occurred during the protracted stay at the customs, it was not covered by the insurance. On this basis, UNIDO started a procurement process to replace the damaged equipment with funding from the HPMP. The contract for supply and installation of the replacement equipment will be awarded in October 2016 and by December 2017 the enterprise will phase-out 12.7 ODP tonnes of HCFC-141b.

15. The second and third tranches of the HPMP included the conversion of an additional seven enterprises. The status of implementation of these enterprises is summarized below:

- (a) Al-Essa for Refrigeration and Air-Conditioning: the enterprise converted to pentane technology; installation of the equipment and commissioning of the production line was completed in September 2016, resulting in the phase-out of 11.2 ODP tonnes of HCFC-141b;
- (b) Alamdar Vapotherm Co. Ltd.: the enterprise converted to pentane technology; the equipment was delivered in January 2016, installation and commissioning is expected to be completed by end of October 2016, resulting in the phase-out of 13.86 ODP tonnes of HCFC-141b;
- (c) ALBA Factory for Steel Industries: the enterprise is converting to pentane technology; the equipment was delivered in September 2015; however, installation and commissioning is expected only by the end of November 2016 due to delays caused by the need to construct a new facility for the pentane storage tank. A total of 3.0 ODP tonnes of HCFC-141b will be phased out by December 2016;
- (d) Al Mutlak Factory for Sandwich Panels: is converting to pentane technology; the contract for the equipment was awarded in July 2016. A total of 3.0 ODP tonnes of HCFC-141b will be phased out upon conversion. In addition, the enterprise has already converted to pentane its continuous panel production line, which was established after the cut-off date and was therefore not eligible for funding under the Multilateral Fund;
- (e) Saudi Ceramic Company has two factories, of which only one is eligible for funding. The enterprise is converting to pentane technology. Expansion of the production line is planned after the conversion of the existing lines, which has been delayed due to the difficulties in installing the pentane storage tank. The terms of reference for the equipment were finalized in April 2016 but the contract has not yet been awarded. A total of 12.7 ODP tonnes of HCFC-141b will be phased out by the end of 2017 or early 2018, after introduction of the ban on HCFC-141b;
- (f) International Building Systems Co. Ltd (IBSF): the enterprise had chosen to convert to pentane but, due to the changes in management, the enterprise has decided it was not ready for conversion and was therefore dropped from the equipment procurement; and
- (g) Sahari Refrigeration Co. Ltd (Sahari): although this enterprise was inadvertently not identified during the preparation of the stage I of the HPMP, it has been funded to replace 1.8 OPD tonnes of HCFC-141b with pentane blowing agent. The contract for the equipment was awarded in July 2016.

16. Stage I of the HPMP originally included five spray foam manufacturing enterprises. Two of those enterprises have terminated their operations, one of which was not eligible, and one enterprise (Setaf) was not found. The remaining two spray foam enterprises (Al-Babtain and SealTech) as well as an additional enterprise (Bayt Al Awazil) have chosen to convert to reduced HFOs formulations. Although Bayt Al Awazil was inadvertently not identified during the preparation of the stage I of the HPMP, it has been funded to phase-out 1.5 ODP tonnes of HCFC-141b. Equipment for the three enterprises (i.e., mixing gun, heated whip-hose and heated long-hose bundles) has been procured and is expected to be delivered in October 2016 and be installed by December 2016. A total of 6.5 ODP tonnes of HCFC-141b will be phased out by the conversion of these three enterprises.

17. Stage I of the HPMP also included technical and financial support to five systems houses (i.e., Henkel with 49 per local ownership; Huntsman APC Limited with 49 per local ownership; B.N. Jundi Chemicals; Saptex Co.; and Saudi Urethane Chemicals Co. (SUCCO) with 94 per local ownership), to customize hydrocarbon and HFO formulations. Funding was provided for hydrocarbon storage and handling systems, pre-mixing stations for two blenders, retrofitting of the existing foam dispensers for trials, laboratory and monitoring equipment and other safety adaptations, and contingencies. There are also two additional systems houses operating in Saudi Arabia, DOW and Qahtani, which are not eligible for funding.

18. Of the five systems houses, only B.N. Jundi had started the conversion process. The equipment for development of pentane-based formulations was delivered in September 2016, with installation expected to be completed in 2017. While equipment for pentane-based formulations was provided under the HPMP, the systems house was also assessing HFO, methylal and methyl formate-based formulations.

19. Henkel Polybit Industries requested UNIDO in September 2016 to put the procurement of equipment on hold to allow the enterprise to evaluate whether it will continue the system house operation in the country. Similarly, SUCCO requested UNIDO to postpone the conversion in order to first obtain the necessary permits for the underground storage tanks to handle flammable chemicals. The conversion is expected to start only during the first quarter of 2017.

20. Huntsman APC Limited Huntsman decided to first develop HFC-based formulations and has, therefore, not yet requested assistance. However, in light of the adoption of the Kigali Amendment to the Montreal Protocol, the enterprise could decide to develop low-GWP-based formulations and the funding allocated for the conversion would be used in 2017.

21. With regard to the conversion at Saptex Co., the enterprise received consultation on formulations with alternatives; is participating in the demonstration project on HFOs in spray foam³ approved at the 76th meeting; participated in a mission to converted systems house in Turkey and conducted detailed discussions on use of flammable foaming agents (pentane, methylal and methyl formate) as well as HFOs; and is expected to convert in the beginning of 2017.

Refrigeration-servicing sector

22. Despite the delay in the signature of the agreement between the Presidency for Meteorology and Environment and UNEP⁴, some activities has been implanted *inter alia* the curriculum on technical and vocational training on RAC has been updated and another revision is expected by the end of 2016; equipment procurement for service technicians is completed and distribution is ongoing; and 147 technicians were trained, with another 52 expected in October 2016. An analysis on the requirements

³ UNEP/OzL.Pro/ExCom/76/46.

⁴ The third tranche of the HPMP was approved on the understanding that the approved funds would not be transferred to UNIDO until the agreement between the Presidency for Meteorology and Environment and UNEP had been finalized and signed (decision 75/64(d)). The Secretariat has received the confirmation that the Agreement had been signed, resulting in the disbursement of funds by the Treasurer.

for an e-licensing system was performed; a request for quotations for the systems will be made once integration of the system with the database from customs is sufficiently examined. Draft bylaws for the enforcement of updated GCC regulations on ODS have been prepared. However, the adoption of the ODS regulations has not yet been adopted; the package is awaiting the final endorsement by the Minister of the Environment and is expected to be adopted during the first half of 2017.

23. A preliminary roadmap to implement a ban on the import and sale of disposable cylinders was created. Further consultation and analysis on the roadmap will take place during 2017.

Project implementation and monitoring unit (PMU)

24. The NOU is responsible for the overall HPMP coordination, inspection, monitoring and awareness activities and ensures that the implementation of the HPMP is aligned with policy, regulatory, awareness and capacity-building actions in the country. The PMU assists the NOU in the coordination and implementation of the project activities.

Level of fund disbursement

25. As of October 2016, of the US \$8,877,388 so far approved (including US 1,938,901 for XPS foam projects at ACC and Al-Watania approved at the 62nd meeting and US \$307,000 left over from the national ODS phase-out plan (NPP)), US \$4,435,702 had been disbursed. The balance of US \$4,441,686 will be disbursed in 2017 and 2018 (Table 3).

Table 3. Financial report of stage I of the HPMP for Saudi Arabia (US \$)

Agency	First tranche		Second tranche		Third Tranche		Total approved	
	Approved	Disbursed	Approved	Disbursed	Approved	Disbursed	Approved	Disbursed
UNEP	290,400	33,914	0	0	0	0	290,400	33,914
UNIDO	2,169,600	1,901,997*	2,971,487	1,466,114**	1,200,000	282,892	6,341,087	3,651,003
Funds NPP	307,000		0	0	0	0	307,000	
Previously approved XPS foam at ACC and Al-Watania	1,938,901	750,785	0	0	0	0	1,938,901	750,785
Total	4,705,901	2,686,696	2,971,487	1,466,114*	1,200,000	282,892	8,877,388	4,435,702
Disbursement %	57.1		49.3		23.6		50.0	

* Disbursement is lower than that reported to the 75th meeting due to an inadvertent error. Overall disbursement of the first tranche is higher than that reported at the 75th meeting.

** Includes a reduction of US \$7,813 in accordance with decision 72/35.

Implementation plan for the fourth tranche of the HPMP

26. The following activities will be implemented:

- (a) Regulatory and policy strengthening, including establishment and operation of the pilot phase of certification scheme for 1,000 RAC technicians; development of a system restricting access to refrigerant only to certified technicians; customs refresher training as required; adoption and enforcement of the national code of good practice; implementation of ODS e-licensing system; awareness campaign on new ODS regulations; and consulting support to PU enterprises on alternative technologies (UNEP) (US \$250,400);
- (b) Procurement of equipment for the remaining PU foam enterprises (UNIDO) (US \$700,000);

- (c) Procurement of equipment for process modification to non-HCFC alternatives for three systems houses (UNIDO) (US \$300,000);
- (d) Ten to fifteen workshops organized by the converted systems houses for their downstream clients (UNIDO) (US \$166,600);
- (e) Twenty training workshops on good refrigeration practices for a total of 500-600 technicians (UNIDO) (US \$200,000);
- (f) Procurement of equipment for reclamation centres (e.g., centralized reclaim station, transfer pump for recovered refrigerant, advanced refrigerant identifier, lab equipment, and portable recovery units) and training on their use (UNIDO) (US \$350,000); and
- (g) Project monitoring (UNIDO) (US \$50,000).

SECRETARIAT'S COMMENTS AND RECOMMENDATION

COMMENTS

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

Legal framework

27. The Government of Saudi Arabia has already issued HCFC import quotas for 2016 in accordance with the Montreal Protocol control targets at 1,321.82 ODP tonnes.

28. The Secretariat considers that absent of complementary policy measures, retaining the originally proposed timeline for implementing the ban on new air-conditioning equipment containing HCFC-22 or HCFC-blends could have the unintended result of encouraging the import or manufacture of high-GWP-based air-conditioning equipment, and therefore considers this postponement a meaningful approach.

Replacement of damaged equipment

29. Noting that customs would not release the equipment for Saptex until the NOU had signed a letter waiving future damage claims, the Secretariat drew attention to the institutional strengthening projects for Saudi Arabia, which included integration of ozone protection issues into national plans and awareness-raising; that the NPP included customs training; that a joint coordination committee composed of the Presidency for Meteorology and Environment and the Customs Authority was established; and that additional training of customs officers has been and will continue to be undertaken under the HPMP. In light of this support to customs in Saudi Arabia, the Secretariat requested UNIDO to clarify why the communication between the NOU and customs resulted in the requirement for waiving of future damage.

30. UNIDO explained that the cooperation between the Customs and the NOU is strong in the field of ODS controls and is based on mutual interest and need to control ODS trade. The capacity-building of customs officers aims to provide the required means and skills to enforce ODS trade controls. However, the application of import duties and fees is another area, beyond the scope of cooperation with the NOU.

31. In further discussions on this issue, it was noted that the Multilateral Fund had already provided funding for the equipment that was damaged while in storage in Customs, including insurance policy and, therefore, funding for repairs or to purchase new equipment should be covered from other sources. It was noted, however, that not providing additional funding to replace the equipment from the HPMP, the

beneficiary enterprise would not be able to convert its production line. UNIDO therefore requested that such funding be considered as a major change in accordance with sub-paragraph 7(a) of the Agreement between the Executive Committee and the Government of Saudi Arabia, on the understanding that the total agreed phase-out under stage I would not change.

32. As HESCO was still considering whether to resume its operations and had received its equipment, while Saptex did not have equipment as it was damaged but the enterprise was ready to undertake its conversion, the Secretariat inquired whether equipment destined for HESCO could be used at Saptex. UNIDO explained it would be preferable to wait until HESCO makes a decision as HESCO had paid the import tax for the equipment and hence would require a reimbursement from Saptex; that Saptex would require additional pumps; and that settlement of HESCO's insurance claim was expected by the end of 2016, at which point the enterprise would be in a position to decide whether to resume operations.

Foam manufacturing

33. Regarding the two foam enterprises, Bayt Al Awazil and Sahari, that were not originally included in stage I of the HPMP, the Secretariat noted that they were inadvertently omitted from the survey conducted for the preparation of the HPMP. Upon request from the Secretariat, UNIDO confirmed that both enterprises are fully Article 5-owned and the foam production capacity was established before September 2007. Furthermore, the enterprises would need to be converted during stage I, as the ban on import of HCFC-141b will be in effect by 1 January 2018, and no additional funding was requested for the phase-out of HCFC-141b at the enterprises as savings from other conversions, including from enterprises that had terminated their operations or decided not to participate in the HPMP, would be used for this purpose.

34. With regard to the equipment to be provided for spray foam enterprises, UNIDO explained that due to changes in formulation, the optimized HFO systems have a higher viscosity and that the new equipment was needed to process such higher viscosity systems. The Secretariat pointed out, however, that HFOs are drop-in alternatives and that such equipment would not be eligible; while reduced HFO systems may have a higher viscosity if not appropriately formulated, systems can be formulated using off-the-shelf polyols and additives to maintain the viscosity of polyol blends so that they can be used with standard equipment. UNIDO agreed not to use funding from the HPMP to procure the equipment, but requested to instead provide incremental operating costs (IOCs) for the conversion to reduced HFOs. Although those IOCs were not included in the original funding allocation for the spray foam enterprises, the Secretariat recalled decision 68/53(h) which requested the implementing agencies not to implement any conversion to HFC-245fa in the spray foam sector prior to 1 January 2016 so that low-GWP alternatives could be used instead, and considered that providing such IOCs would fulfil the intent of decision 68/53(h). As the requested IOCs were less than 30 percent of the third tranche, the Secretariat considered that providing IOCs for the conversion to HFOs to the three enterprises in the spray foam sub-sector would fall within the meaning of paragraph 7(b) of the Agreement and it was agreed to proceed in this manner.

35. The Secretariat also requested the reasons for the proposed packaged rooftop air-conditioner at Saptex, which was not included in the indicative list of equipment for systems houses when the HPMP was approved. UNIDO indicated that such equipment was requested for use with the reduced HFO formulations. The Secretariat noted that such equipment is not incremental and therefore not eligible, and it was agreed that funding from the Multilateral Fund would not be used to purchase the rooftop air-conditioner.

36. Funding for conducting 10 to 15 workshops by the systems houses for their downstream foam clients was allocated at the third (US \$90,000) and fourth US \$166,000 tranches. UNIDO clarified that since none of the systems houses have completed their conversion, no workshops for the clients have yet

been implemented. Due to the ban on HCFC-141b to be in effect by 1 January 2018, it is expected that the systems houses will have alternative formulations and will have provided assistance to their clients in 2017.

37. The Secretariat noted that the conversion of several of the enterprises was delayed, including at Saudi Ceramic Company and SUCCO due to delays associated with securing the necessary permits for the pentane storage tank, and at four of the five systems houses; that no workshops for downstream users have been conducted; and that the participation of at least three enterprises in the HPMP, namely Henkel Polybit Industries, HESCO, and IBSF, is uncertain. The Secretariat expressed its concern about the progress in phasing out HCFC-141b and inquired whether Saudi Arabia would still be able to ban HCFC-141b on 1 January 2018. Notwithstanding this situation, UNIDO confirmed the intention of the Government to implement the ban on the import of HCFC-141b as planned. The funding associated with any enterprise that had not initiated its conversion at that time will be returned to the Multilateral Fund.

Refrigeration-servicing sector

38. Appendix 8-A of the Agreement between the Government of Saudi Arabia and the Executive Committee outlines four specific conditions required to be met before the funding related to activities in the servicing sector from the fourth tranche (US \$777,000 for UNIDO and US \$120,000 for UNEP) could be released.⁵ The Secretariat followed up on each of the conditions:

- (a) With regard to the ban on disposable cylinders, UNIDO explained that the country has initiated the process of establishing the ban by developing a preliminary roadmap that would ban the import of disposable cylinders in October 2016 or 2017 and ban the sale one year later. However, the roadmap is preliminary and further consultation and analysis on the roadmap during 2017 is required before it can be finalized;
- (b) Despite significant efforts to develop a certification scheme, its development and adoption has been delayed. UNIDO clarified that in the interim, certification according to the European Union (EU) F-gas regulation has been introduced, and several technicians have been certified according to the system. The EU F-gas regulation as it relates to certification was introduced into the country; two training and certification workshops were held in October 2016 resulting in the certification of an additional 46 technicians beyond the 12 technicians previously certified; and that an agreement has been reached with the Technical and Vocational Training Corporation (TVTC) to hold a national campaign for certifying technicians all over the country. The introduction of the EU F-gas regulation system would facilitate future work on HFCs taking into account the Kigali Amendment;
- (c) With regard to the need to implement a system regulating access to refrigerants only to entities where certified technicians are carrying out and supervising the work on servicing RAC systems, UNIDO clarified that the requirement will be met through the planned certification system and the enforcement of the planned code of good practice expected to be adopted in 2017; and
- (d) With regard to the national strategy to encourage RAC end-users to carry out leak detection and repair measures in case of refrigerant losses, UNIDO clarified that such strategy includes the planned certification scheme, the code of practice, the update of the curricula, the ban of disposable cylinders and other control measures and ODS regulations. Once these components are in place, national strategy will be implemented during the remainder of the HPMP.

⁵ Conditions as per Appendix 8-A of the Agreement (UNEP/OzL.Pro/ExCom/72/47, Annex XIII).

39. In light of the explanations provided, the Secretariat noted that the conditions of Appendix 8-A had not yet been fully met.

40. The Secretariat recalled that under the previous tranche, US \$60,000 was allocated for ten training workshops for 250-300 technicians, and that the fourth tranche proposed to allocate US \$200,000 for a further 20 workshops to train 500-600 technicians. UNIDO clarified that the higher cost for workshops in the fourth tranche reflect the fact the budget for the third tranche did not take into consideration the cost of the hosting institute as the plan was to organize training at government technical training facilities where all required logistics, equipment and materials are offered free. However, the experience over past year revealed that there will be need to secure additional funding to cover the costs associated with training organization.

41. Upon a request for clarification UNIDO explained that the finalization of the draft code of practice that was expected to be adopted by the end of 2015 had been delayed due to recent changes of the management of the environment authority; however, it is expected that the code could be adopted early in 2017.

Conclusion

42. During the discussions of the tranche request, the Secretariat expressed its concern about the limited progress in implementing the HPMP activities and not fully meeting the conditions specified in Appendix 8-A of the Agreement between the Government of Saudi Arabia and the Executive Committee. Noting the ban on the installation of new capacity to manufacture with HCFCs has been established since 2013 and the ban on import and use of HCFC-142b has been established as of 1 January 2014; the commitment by the Government to ban the import and export of HCFC-141b for use in the production of PU foams or as solvents or for any other application by 1 January 2018; the penalty clause specified in Appendix 7-A of the Agreement that would be applied should that ban not be implemented; that the country is in compliance with the Montreal Protocol control targets as well as with the targets specified in the Agreement; and that sufficient disbursement had been achieved, the Secretariat could, on an exceptional basis and in an effort to further help the country meet its compliance obligations under the Montreal Protocol and the Agreement, recommend the approval of the fourth tranche subject to the following conditions:

- (a) Of the funding of US \$2,017,000 of the fourth tranche, the Treasurer would withhold disbursing US \$897,000 (US \$777,000 for UNIDO and US \$120,000 for UNEP) until receipt of a comprehensive report demonstrating that the conditions specified in Appendix 8-A had been met. Should the report have not been provided by the last meeting of 2017, the US \$897,000 would be returned to the Multilateral Fund, and could only be requested once the conditions in Appendix 8-A have been fully met;
- (b) A report on the progress to finalize a binding, long-term agreement between the NOU and the Customs authority to ensure cooperation and communication and to address, *inter alia*, duties, taxes, demurrage fees, and any damages to equipment purchased by the Multilateral Fund should be submitted together with the fifth tranche request;
- (c) The fifth tranche request could only be submitted once the following conditions have been met:
 - (i) Conversion of all PU foam enterprises included in stage I of the HPMP to the agreed technology is completed and the ban on HCFC-141b is established; and conversion at Al-Watania to a blend of isobutane, CO₂ and HFO-1234ze is completed;

- (ii) Conversion of all system houses included in stage I of the HPMP to low-GWP based formulations is completed, and systems houses have held at least ten workshops for downstream foam users;
 - (iii) The code of practice and e-licensing scheme are adopted; mandatory recovery and recycling of HCFCs and other ODS refrigerant is in place; and the ban on disposable refrigerant cylinders is in place; and
- (d) Requesting the return of funds associated with any foam enterprise or systems house included in stage I of the HPMP that decided not to convert to the agreed technology or not to participate in the HPMP to the same meeting the fifth tranche request is submitted, after taking into account the funds needed for the conversion at the two newly identified enterprises (Bayt Al Awazil and Sahari).

RECOMMENDATION

43. The Executive Committee may wish to consider:

- (a) Noting:
 - (i) The progress report on the implementation of the third tranche of stage I of the HCFC phase-out management plan (HPMP) in Saudi Arabia;
 - (ii) With concern, the delay of implementation of activities in the foam manufacturing and refrigeration servicing sectors;
 - (iii) That the conditions of the Appendix 8-A of the Agreement between the Government of Saudi Arabia and the Executive Committee have not been met, and portions of the funding related to activities in the servicing sector and being subject to the conditions cannot be released (US \$777,000 for UNIDO and US \$120,000 for UNEP);
- (b) Whether to approve the proposal to provide funding for the damaged equipment in accordance with sub-paragraph 7(a) of the Agreement between the Government of Saudi Arabia and the Executive Committee as reflected in the implementation plan;
- (c) Requesting UNIDO to include a report on the progress to finalize a binding, long-term agreement between the National Ozone Unit (NOU) and the Customs authority to ensure cooperation and communication and to address, *inter alia*, duties, taxes, demurrage fees, and any damages to equipment purchased by the Multilateral Fund should be submitted together with the fifth tranche request
- (d) Allowing the fifth tranche request to be submitted once the following conditions have been met:
 - (i) Conversion of all PU foam enterprises included in stage I of the HPMP to the agreed technology is completed and the ban on HCFC-141b is established; and conversion at Al-Watania to a blend of isobutane, CO₂ and HFO-1234ze is completed;
 - (ii) Conversion of all system houses included in stage I of the HPMP to low-GWP based formulations is completed, and systems houses have held at least ten workshops for downstream foam users;

- (iii) The code of practice and e-licensing scheme are adopted; mandatory recovery and recycling of HCFCs and other ODS refrigerant is in place; and the ban on disposable refrigerant cylinders is in place;
 - (e) Requesting the return of funds associated with any foam enterprise or systems house included in stage I of the HPMP that decided not to convert to the agreed technology or not to participate in the HPMP to the same meeting the fifth tranche request is submitted, after taking into account the funds needed for the conversion at the two newly identified enterprises (Bayt Al Awazil and Sahari);
 - (f) Approving, on an exceptional basis, the fourth tranche of stage I of the HPMP for Saudi Arabia and the corresponding 2016-2017 tranche implementation plan, at the amount of US \$2,171,680 consisting of US \$1,766,600 plus agency support costs of US \$123,662 for UNIDO, and US \$250,400 plus agency support costs of US \$31,018, on the understanding that the Treasurer would withhold the amount of US \$966,254, consisting of US \$777,000 plus agency support costs of US \$54,390 for UNIDO, and US \$120,000, plus agency support costs of US \$14,864 for UNEP, until receipt of a comprehensive report demonstrating that the conditions specified in Appendix 8-A had been met. Should the report have not been provided by the last meeting of 2017, the US \$897,000 plus agency support costs would be returned to the Multilateral Fund, and could only be requested once the conditions in Appendix 8-A have been fully met.
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