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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Seventy-second Meeting
Montreal, 12-16 May 2014

PROJECT PROPOSAL: TUNISIA

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

Phase-out

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

UNIDO

* Reissued for technical reasons on 16 April 2014.

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

(I) PROJECT TITLE	AGENCY
HCFC phase out plan (Stage I)	UNIDO (lead)

(II) LATEST ARTICLE 7 DATA (Annex C Group I)	Year: 2012	32.7 (ODP tonnes)
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(III) LATEST COUNTRY PROGRAMME SECTORAL DATA (ODP tonnes)								Year: 2012	
Chemical	Aerosol	Foam	Fire fighting	Refrigeration		Solvent	Process agent	Lab Use	Total sector consumption
				Manufacturing	Servicing				
HCFC-123					0.0				0.0
HCFC-124									
HCFC-141b		0.9							0.9
HCFC-142b									
HCFC-22					31.7				31.7

(IV) CONSUMPTION DATA (ODP tonnes)			
2009 - 2010 baseline (estimate):	40.7	Starting point for sustained aggregate reductions:	45.72
CONSUMPTION ELIGIBLE FOR FUNDING (ODP tonnes)			
Already approved:	0.0	Remaining:	

(V) BUSINESS PLAN		2014	2015	2016	Total
UNIDO	ODS phase-out (ODP tonnes)	8.8	8.8	1.2	18.8
	Funding (US \$)	745,109	745,109	105,055	1,595,273

(VI) PROJECT DATA				2014	2015	2016	2017	2018	Total
Montreal Protocol consumption limits (estimate)				40.7	36.6	36.6	36.6	36.6	0
Maximum allowable consumption (ODP tonnes)				40.7	36.6	36.6	36.6	36.6	0
Project Costs requested in principle(US\$)	UNIDO	Project costs	596,575	928,293	0	193,328	0	1,718,196	
		Support costs	41,760	64,980	0	13,532	0	120,272	
Total project costs requested in principle (US \$)				596,575	928,293	0	193,328	0	1,718,196
Total support costs requested in principle (US \$)				41,760	64,980	0	13,532	0	120,272
Total funds requested in principle (US \$)				638,335	993,273	0	206,860	0	1,838,468

(VII) Request for funding for the first tranche (2014)		
Agency	Funds requested (US \$)	Support costs (US \$)
UNIDO	596,575	41,760

Funding request:	Approval of funding for the first tranche (2014) as indicated above
Secretariat's recommendation:	Individual consideration

PROJECT DESCRIPTION

1. On behalf of the Government of Tunisia, UNIDO as the designated implementing agency, has submitted to the 72nd meeting of the Executive Committee a request for funding for the first tranche of stage I of the HCFC phase-out management plan (HPMP), at the amount of US \$5,011,264 plus agency support costs of US \$350,788. The HPMP proposes strategies and activities to achieve the 35 per cent reduction by 2020, as originally submitted.

2. The first tranche for stage I being requested at this meeting amounts to US \$2,056,950, plus agency support costs of US \$143,987 for UNIDO.

Background

3. Tunisia, with a total population of about 10,673,800 million inhabitants, has ratified all the amendments to the Montreal Protocol.

ODS policy and regulatory framework

4. Since 1992, funds were provided for the establishment and operation of a national ozone unit (NOU). The NOU was established within the National Environmental Protection Agency (ANPE), under the Ministry of Equipment and Environment. ANPE is the central authority for establishing environmental policy and the country's position in negotiations related to multilateral environmental agreements. The Government of Tunisia has implemented strict controls on ODS through its national legislative structure. Since 1999, it has enacted regulations to control the import/export and use of ODS, including the establishment of an ODS licensing system. A quota system has been established in order to meet the ODS phase-out schedules set by the Montreal Protocol, including HCFCs.

HCFC consumption and sector distribution

5. All of the HCFCs used in Tunisia are imported. The country has no HCFC production, and the country has not recorded exports of ODS. The HCFC baseline for compliance is 40.7 ODP tonnes calculated based on the reported 2009 and 2010 consumption under Article 7. The HCFC consumption between 2007 and 2012 as well as data on the use of HCFC-141b contained in imported pre-blended polyols by eligible enterprises is shown in Table 1.

Table 1. HCFC consumption for each HCFC imported (Article 7)

Substance	Consumption (MT)						Baseline
	2007	2008	2009	2010	2011	2012	
HCFC-22	421.15	626.64	793.87	624.84	599.53	577.25	709.34
HCFC-141b	73.87	54.10	5.64	23.50	8.46	8.46	14.57
HCFC-142b	0.00	0.00	0.00	1.10	0.00	0.00	0.55
HCFC-124	1.64	1.04	0.00	0.21	0.00	0.00	0.11
Sub-total	496.66	681.78	799.51	649.65	607.99	585.71	724.58
HCFC-141b imported pre-blended polyols*	53.92	173.55	212.73	187.20	126.96	74.72	146.73**
Total	550.58	855.33	1012.24	836.85	734.95	660.43	871.31

Substance	Consumption (MT)						Baseline
	2007	2008	2009	2010	2011	2012	
	Consumption (ODP tonnes)						
HCFC-22	23.16	34.47	43.66	34.37	32.97	31.75	39.01
HCFC-141b	8.13	5.95	0.62	2.59	0.93	0.93	1.61
HCFC-142b	0.00	0.00	0.00	0.07	0.00	0.00	0.04
HCFC-124	0.04	0.02	0.00	0.00	0.00	0.00	0.00
Sub-total	31.33	40.44	44.28	37.03	33.90	32.68	40.65
HCFC-141b in imported pre-blended polyols*	5.93	19.09	23.40	20.59	13.97	8.22	16.14**
Total	37.26	59.53	67.68	57.62	47.87	40.90	56.79

*Does not constitute as consumption and has never been reported under Article 7

**Calculated using the average of 2007-2009 consumption

6. HCFC-22 accounts for the majority of HCFC consumption in the country. This is mainly used in the manufacturing of refrigeration and air-conditioning equipment as well as for servicing. The HCFC-141b reported as consumption under Article 7 is used solely in the solvent sector. HCFC-141b contained in imported pre-blended polyols is used for foam blowing.

7. Between 2009 and 2010 the consumption dropped by 16.4 per cent. This decrease occurred in the year before the social unrest and related disruption in economic activity. Consumption was also reduced by 8.4 per cent between 2010 and 2011, due to the economic slowdown as a result of the political instability in the country. In the case of HCFC-141b in imported pre-blended polyols, the drastic reduction was due to one of the largest foam enterprise's reduced production capacity in 2011 and stopped using pre-blended polyols. The sectoral distribution of HCFC consumption is presented in Table 2 below:

Table 2. Sectoral distribution of HCFC consumption (2012)

Sector	HCFC-22	HCFC-141b	Total	Percentage %
Metric tonnes				
Air-conditioning manufacturing	98.78	0.00	98.78	12.2
Refrigeration manufacturing	22.78	0.00	22.78	3.2
Polyurethane (PU) foams*	0.00	74.72	74.72	9.3
Solvents	0.00	12.22	12.22	1.5
Servicing	587.87	0.00	587.87	73.8
Total (mt)	709.42	86.94	796.37	100
ODP tonnes				
Air-conditioning manufacturing	5.43	0.00	5.43	11.2
Refrigeration manufacturing	1.25	0.00	1.25	2.6
Polyurethane (PU) foams*	0.00	8.22	8.22	16.9
Solvents	0.00	1.34	1.34	2.8
Servicing	32.33	0.00	32.33	66.5
Total (ODP tonnes)	39.01	9.56	48.57	100

*Imported in pre-blended polyols

Refrigeration and air-conditioning manufacturing sector

Room air-conditioning manufacturers

8. The room air-conditioning manufacturing sub-sector produced approximately 165,000 units in 2012, with an average reported production in 2007-2011 ranging from 50,000 -200,000 units per year.

This production is concentrated in 18 enterprises, most of which use so-called completely knocked down (CKD) kits as a basis for their production process. Two of the enterprises have completely stopped production of HCFC-22 units. The total HCFC-22 consumption in 2012 for this application is 98.78 mt, with an average consumption of 6.12 mt. per enterprise. The largest consumer among these enterprises used 33.07 mt of HCFC-22, while the smallest used 0.80 mt.

Commercial and industrial refrigeration equipment manufacturers

9. The use of HCFC-22 in this sector is limited to five enterprises manufacturing cold chambers, one enterprise manufacturing display cabinets and one enterprise manufacturing cold boxes for trucks. Total HCFC-22 consumption for this sub-sector in 2012 was 22.78 mt, with the largest enterprise using 15.27 mt, and the smallest consumer using 0.07 mt.

Foam sector

10. The foam sector in terms of production volume is dominated by the flexible slab stock market where enterprises have been converted in the past from CFC-11 to CO₂ technology. There are 29 small and medium foam enterprises using imported pre-blended polyols containing HCFC-141b. These enterprises manufacture a range of products including elastomer filters, sandwich panels, refrigeration insulation, moulded, flexible, and slab stock foam. These manufacturers purchase imported pre-blended polyols directly or through traders. A summary of the consumption of these enterprises is provided in Table 3 below:

Table 3. Consumption of HCFC-141b in imported pre-blended polyols

Companies	Consumption (MT of HCFC-141b)						Ave. 2007-2009 consumption	
	2007	2008	2009	2010	2011	2012	MT	ODP
	Ten enterprises not previously assisted by the Multilateral Fund	35.66	40.91	48.71	52.83	40.48	44.54	41.78*
Eleven second stage conversions	4.25	4.43	3.16	3.74	3.18	25.33	3.94*	0.43*
Two enterprises that started operations after September 2007	2.32	6.98	6.23	6.18	8.34	4.85	5.17	0.57
Six enterprises which have ceased use of HCFC-141b from 2012	11.70	121.23	154.63	124.46	75	0	95.85	10.54
Total consumption	2.32	6.98	6.23	6.18	8.34	4.85	146.74	16.14

*Only the consumption of these enterprises are eligible for funding in line with decision 61/47

Solvent sector

11. There are two enterprises in Tunisia which use bulk HCFC-141b as a solvent. One enterprise uses it as silicone oil thinner and cleaning agent in the production of needles for medical purposes, while the other for flushing of refrigeration circuits predominantly during servicing mobile air-conditioning equipment in rail cars. The total HCFC-141b consumption of these two solvent uses was 12.22 mt in 2012.

Refrigeration and air-conditioning servicing sector

12. The servicing sector consumes 587.87 mt of HCFC-22, representing 81.1 per cent of the HCFC baseline consumption. Refrigeration servicing is divided into the formal (larger, more organized service shops) and informal (very small shops mostly consisting of the service technician as owner) sectors. There are a total of 3,800 technicians in both sectors, distributed to more than 170 workshops, nine centres and many small servicing shops. Some of the larger workshops have reported HCFC consumption of up to 1 mt per year, while the smaller ones show a consumption of ranging from 100 kg to 1 mt of HCFC-22. Many of the smaller shops are not equipped with leak detectors or flushing machines. Refrigerant recovery is very limited, and there are no skills available at the moment to handle flammable substances.

Forecast HCFC Consumption

13. The 2014-2020 forecast HCFC consumption in Tunisia based on a five per cent annual growth is presented in Table 4. The forecast takes into account the fact that macro-economic indicators in the country have demonstrated some growth in 2012 and 2013; a similar growth rate is expected in 2014. HCFC consumption has shown a similar growth trend by the country's macro-economic indicators, therefore the 5 per cent growth rate had been used to forecast future HCFC consumption.

Table 4. Forecast of consumption of HCFCs in 2014-2020

Substances	Consumption (ODP tonnes)						
	2014	2015	2016	2017	2018	2019	2020
HCFC-22 for manufacturing	4.76	5.03	5.38	5.76	6.16	6.59	7.06
HCFC-22 for servicing	29.58	31.30	33.49	35.83	38.34	41.03	43.90
HCFC-141b pure	1.01	1.06	1.14	1.22	1.30	1.40	1.49
HCFC-141b pre-blended in polyols	7.82	8.27	8.85	9.47	10.13	10.84	11.60
Total (without pre-blended polyols)	35.34	37.39	40.01	42.81	45.81	49.02	52.45
Total	43.16	45.67	48.86	52.28	55.94	59.86	64.05

HCFC phase-out strategy

14. Stage I of the HPMP as submitted is expected to reduce HCFC consumption by 35 per cent in 2020 (i.e. a proposed reduction of 14.24 ODP tonnes of HCFC). The phase-out of HCFC-141b in imported pre-blended polyols is also included in stage I. During the period 2014-2020, emphasis will be given to strengthen the policy and regulatory aspects, and to provide technical assistance to customs authorities and the servicing sector. In addition, the second phase of the national HCFC reclamation programme will be undertaken, and umbrella investment projects will be implemented for the manufacturing of residential air-conditioning appliances and for the commercial refrigeration sectors.

15. The following activities are proposed to be implemented as part of stage I of the HPMP:

- (a) Investment projects to eliminate consumption of HCFC-141b in bulk used as a solvent in two enterprises;
- (b) Phase-out of HCFC-22 in the manufacturing sector through:
 - (i) Conversion of 16 enterprises in the manufacturing of residential air-conditioning;
 - (ii) Technical assistance to seven enterprises in the manufacturing/assembling of cold chambers;

- (c) Technical assistance activities to phase-out the use of HCFC-22 in the servicing sector, namely:
- (i) Support to customs authorities through the enhancement of HCFC identification capabilities;
 - (ii) Set up of a national HCFC reclamation programme to reduce the demand for consumption of virgin HCFC-22.
- (d) Phase-out of HCFC-141b in imported pre-blended polyols through:
- (i) Conversion of three enterprises (one producing sandwich panels with polyurethane (PU) foam and two producing filters with elastomer foam);
 - (ii) Technical assistance to 21 small-sized enterprises;
 - (iii) Enhancement of identification capabilities at customs level, in order to register imports of pre-blended polyols containing HCFC-141b; and
- (e) Project management and monitoring.

Overall cost of stage I of the HPMP

16. The overall cost of implementing stage I of the HPMP has been estimated at US \$5,011,264, plus agency support costs, as shown in Table 5.

Table 5. Overall cost of stage I of the HPMP for Tunisia

Activity/project		Budget (US \$)							Sub-total
		2014	2015	2016	2017	2018	2019	2020	
1	Policy and regulation support programme	30,000	30,000	20,000	20,000	20,000	20,000	20,000	160,000
2	Investment projects to eliminate consumption of HCFC-141b in bulk								
2.1	Société de Fabrication des Articles Pharmaceutiques (SOFAP)	60,000	133,000						193,000
2.2	SNCFT	57,000	20,000						77,000
3	Investment projects to eliminate consumption of HCFC-141b pre-blended in polyols at three enterprises								
3.1	Le Panneau		300,000	70,550					370,550
3.2	MISFAT Filtration and GIF Tunisie	450,000	60,900						510,900
4	Technical assistance programme in the foam sector to reduce consumption of HCFC-141b in imported pre-blended in polyols in 21 enterprises				105,000	105,000			210,000
5	Umbrella investment project to reduce consumption of HCFC-22 in 16 enterprises in the manufacturing of residential air-conditioning		25,000	25,000	787,416	612,435	349,963		1,799,814

Activity/project		Budget (US \$)							
		2014	2015	2016	2017	2018	2019	2020	Sub-total
6	Technical assistance to reduce consumption of HCFC-22 in seven enterprises in the manufacturing / assembling of cold chambers						57,000	35,000	92,000
7	Technical assistance for the reduction of HCFC-22 consumption in the servicing sector								
7.1	Establishment of an adequate framework	20,000	20,000	15,000	15,000	15,000	10,000	10,000	105,000
7.2	Investment activities	103,750	103,750		103,750	103,750			415,000
7.3	Training of technicians		73,750	73,750		73,750	73,750		295,000
8	Development of a national HCFC reclamation programme	167,500			167,500				335,000
9	Technical assistance for Customs officials								
9.1	Training		25,000		25,000		25,000		75,000
9.2	Supply of identification sets	23,000							23,000
10	Project management and audit	50,000	50,000	50,000	50,000	50,000	50,000	50,000	350,000
	Sub-total	961,250	841,400	254,300	1,273,666	979,935	585,713	115,000	5,011,264

SECRETARIAT'S COMMENTS AND RECOMMENDATION

COMMENTS

17. The Secretariat reviewed the HPMP for Tunisia in the context of the guidelines for the preparation of HPMPs (decision 54/39), the criteria for funding HCFC phase-out in the consumption sector agreed at the 60th meeting (decision 60/44), subsequent decisions on HPMPs and the 2014-2016 business plan of the Multilateral Fund.

Implementation of the national CFC phase-out management plan (NOPP)

18. The Secretariat requested an update on the progress of the implementation of the NOPP initially approved for implementation of the World Bank at the 49th meeting, and subsequently transferred for implementation of UNIDO at the 68th meeting, for completion by March 2014. The update was requested in the context of decision 71/11(b) where Tunisia was included in the list of projects where the Executive Committee had decided that no additional financial commitments were to be incurred, and that unused balances from these projects were to be returned to the Multilateral Fund by the end of 2014. UNIDO was granted until March 2014 to complete disbursements. UNIDO reported that the main achievement for NOPP was the finalization of bids for the establishment of two reclamation centres and the provision of tools and equipment for 20 major servicing workshops. The remaining balance after these two activities would be reported in UNIDO's progress report and returned to the Multilateral Fund as requested.

Operational licensing/quota system

19. In line with decision 63/17, UNIDO, on behalf of the Government, submitted an official letter confirming that Tunisia has an enforceable national licensing and quota system for import/export, re-export and transit of HCFCs. The Ministry of Energy, Development and Environmental Protection has also introduced additional measures such as issuance of license per shipment with validity limited to the quarter in which it is issued and quarterly cross-checking of import and export data with customs

administration. The quota for 2014 is set in line with the allowable consumption under the Montreal Protocol.

Starting point for aggregate reduction in HCFC consumption

20. The Government of Tunisia had established as its starting point for aggregate HCFC reduction the HCFC baseline of 40.70 ODP tonnes, plus the average 2007-2009 HCFC-141b contained in imported pre-blended polyols calculated at 16.14 ODP tonnes, resulting in a total of 56.84 ODP tonnes.

21. In reviewing the data provided for HCFC-141b contained in imported pre-blended polyols, the Secretariat noted that out of the 29 enterprises, only 10 have eligible consumption in line with decision 61/47. The other 11 have been previously funded under the CFC phase-out for conversion, two are not eligible as they had started operations after September 2007, and the remaining six enterprises have ceased the use of HCFC-141b in imported pre-blended polyols since 2012. Based on this, the average use of HCFC-141b contained in imported pre-blended polyols was amended to 5.02 ODP tonnes, resulting in a final starting point of 45.72 ODP tonnes.

HPMP strategy for stage I

22. As a non-LVC, Tunisia is expected to reduce its HCFC consumption to meet the freeze of HCFC consumption in 2013 and the 10 per cent reduction in 2015. The stage I of the HPMP submitted envisaged a phase-out of 35 per cent until 2020, therefore upon further discussion, was adjusted by UNIDO to be within the guidelines. The change in stage I implementation to a period covering 2014-2018 would allow Tunisia to meet the 10 per cent reduction as well as provide a solid infrastructure that will enable the country to meet the 35 per cent compliance target in 2020.

23. Based on discussions and upon agreement with the Government, UNIDO proposed that activities for stage I would now focus on the following elements:

- (a) Activities in the refrigeration servicing sector to include:
 - (i) Policy measures that contribute to curbing growth of HCFC use in servicing consumption;
 - (ii) Upgrading ODS identification capacity at the Customs level;
- (b) Elimination of the consumption of HCFC-141b as a solvent in two enterprises;
- (c) Elimination of the consumption of HCFC-22 in a group of four enterprises within the room air conditioning manufacturing sub-sector; and
- (d) Project management and monitoring

Technical issues

Foam sector

24. The Secretariat discussed with UNIDO to postpone the implementation of the conversion in the foam sector for enterprises using HCFC-141b contained in imported pre-blended polyols in order to allow the country to focus on reducing the HCFC consumption required to meet compliance with the Montreal Protocol targets. Furthermore, there were a number of outstanding issues related to the technology selected and the cost, as well as the overall strategy for the sector that required additional work. UNIDO acknowledged that there may be other options for more cost-effective solutions for the foam sector and therefore agreed for these projects to be postponed to stage II.

Refrigeration servicing sector

25. It was discussed that the HCFC reclamation programme, which formed a large part of the servicing sector programme in stage I, might benefit from the experience of the two reclamation centres currently being established as part of the NOPP, and therefore could be postponed to stage II should a need for additional facilities arise. It was also the Secretariat's view that activities in the servicing sector should focus on providing more training and tools for the smaller servicing workshops. The type and number of tools, the number of workshops for the refrigeration technicians and customs officers, as well as the topics to be included in the training (i.e. safety issues related to the use of flammable refrigerants) were also discussed in detail.

26. After further discussions, it was agreed that the refrigeration servicing sector will focus on activities that will be a combination of technical assistance, policy measures, upgrading ODS identification capability of customs officials, and training to promote good practice in refrigeration servicing for technicians to phase out a total of 4.89 ODP tonnes (88.9 mt) of HCFC-22.

Refrigeration manufacturing sector

27. The HPMP originally included the conversion of 16 enterprises in the manufacturing of residential air-conditioners to HFC-410a technology, from 2017 to 2020. After discussion UNIDO provided a revised activity for the largest four enterprises with the use of either HFC-32 HFO or propane as the alternatives. In this context, it is important to note that all of the alternatives considered are flammable. Specific data about the four locally-owned enterprises is provided in Table 6 below.

Table 6. Enterprises included in the umbrella conversion project for the room air-conditioning sub-sector

Enterprise	No. of units manufactured (2012)	Capacity of units		HCFC-22 consumption (mt)			
		From (kW)	To (kW)	2010	2011	2012	2013
Société Electrostar	28,630	2.5	7.0	25.0	28.0	28.0	42.0
Hachicha High World Wide (HHW)	19,925	2.3	6.9	37.5	25.0	18.8	18.8
Société Industrielle Mega	11,500	0.6	6.5	11.1	8.0	8.3	9.5
Société Afrivision	8,060	2.7	7.3	28.8	7.0	5.0	9.0
Total	68,115	0.6	7.3	102.4	68.0	60.1	79.3

28. The choice of alternatives of the four enterprises which will receive assistance under the revised approach is limited since all are using CKD kits to manufacture their room air-conditioners; in order to make a meaningful final technology choice; the availability of such kits would have to be confirmed. However, at this point in time none of the three technologies mentioned is available as CKD kit for room air-conditioners. UNIDO informed also that in case CKD kits for several technologies are available, the manufacturers agreed to prioritize the lowest global warming potential (GWP) technology available for their production.

29. UNIDO provided the costs for the four conversion activities. While each single item had been proposed at a cost level which the Secretariat found acceptable as such, a number of items appeared to relate to larger-scale production processes as compared to the four enterprises to be converted. In the ensuing technical discussion, UNIDO advised that the manufacturing equipment currently available in the international market, in particular the helium leak detector and the charging equipment, are available only in configurations and processes suitable for large-scale manufacturers. After further discussion on the use

of simplified processes and equipment in the manufacturing, while these could lead to more suitable, sustainable and cost effective conversions, equipment of a smaller size and experience on how to integrate them into a safety concept for the production are currently not available.

30. The lack of available CKD kits on the market requires that the conversions in the room air-conditioning sub-sector commence only in 2016. Until then, preparatory work needs to be undertaken to allow immediate implementation once the technology has been determined. The enterprises included in stage I are the four largest producers that will pave the way for the market as they will initiate the development of sustainable alternatives to HCFC-22. Approval of the activity in stage II would thus delay the conversion not only of these four enterprises, but also the remaining manufacturers which may impact on the success of the overall manufacturing sector conversion to low-GWP technology. However, taking into account the current status of low-GWP manufacturing technology for room air-conditioners as well as the fact that the conversion activities commence only in 2016, the Secretariat and UNIDO agreed to include a clause in the Agreement to allow for an adjustment of the approved costs of the conversions downwards should the manufacturing technology for small and medium-sized enterprises advance in a way which would allow a more cost-effective conversion, particularly the availability of equipment for leak detection and the refrigerant charging with flammable refrigerants.

31. The original submission also included a technical assistance activity to reduce consumption of HCFC-22 in seven enterprises manufacturing and assembling cold chambers. The Secretariat pointed out that, in order to allow assessment whether the beneficiaries are manufacturing equipment or only installing it and charging it on site, substantially more information was needed. The information provided in the original submission suggested that the enterprises might not fit the definition of the manufacturing sector. Subsequent to these discussions, UNIDO decided to remove the request, for potential resubmission in stage II of the HPMP.

Solvent sector

32. The consumption of HCFC-141b identified for the solvent sector is almost 4 per cent of the baseline consumption of the country. The conversion of the two enterprises in the solvent sector are the only ones which can be undertaken immediately and have a significant impact on the HCFC consumption of the country, since the foam sector is using HCFC-141b contained in imported pre-blended polyols, thus not relevant for compliance, while the room air-conditioning manufacturing can currently not be converted due to the lack of CKD kits in suitable alternative technologies. In addition, the highly emissive properties of these solvent applications support immediate actions for their conversion.

33. The original project proposal for SNCFT foresaw a number of substantial activities with associated costs of almost US \$77,000 and a cost effectiveness of US \$18.68/kg. The Secretariat advised UNIDO that in all cases where HCFC-141b was used in the refrigeration servicing sector to flush refrigeration circuits, the cost-effectiveness of US \$4.50/kg had been applied. In particular, the same cost effectiveness had been agreed for a very similar activity in Morocco, approved at the 65th meeting. Based on this advice, UNIDO accepted to reduce the cost of this activity to a level of US \$16,920, corresponding to the consumption of 3.76 mt.

34. The project for SOFAP, requested at a cost level of US \$193,000 and a corresponding cost effectiveness of US \$22.80/kg was also discussed with UNIDO in detail. The manufacturer uses specialised equipment for the application of silicone oil in the manufacture of medical needles. HCFC-141b and HFC-365mfc are currently the only solvents that the producer of the manufacturing equipment can recommend. Based on advice from UNIDO, the enterprise considered the use of an HFO, but HFOs are currently not recommended by the equipment manufacturer. UNIDO advised that SOFAP would be willing to use an HFO if the manufacturer of the equipment would list it as a possible alternative to HCFC-141b.

35. This activity foresees the reduction of the amount of solvent used to less than 10 per cent of the HCFC-141b consumption by employing systems to recapture and clean the solvent. While the activity foresaw the purchase of a stock of the new solvent, incremental operating cost were not requested. The Secretariat and UNIDO agreed on a reduced cost level of US \$133,000, with a corresponding cost effectiveness of US \$15.70/kg for the use of HFC-365mfc. The Secretariat noted that the incremental operating cost for the conversion to HFC-365mfc would have been at about the same level, given the small quantities involved and the fact that there are no other users of HFC-365mfc in the country.

Agreed cost of stage I HPMP

36. The final agreed cost for stage I of the HPMP for Tunisia is summarized in Table 7 below:

Table 7. Agreed costs for stage I of the HPMP

Activity	Substance	Consumption		Costs (US \$)			Cost effectiveness (US\$/kg)
		mt	ODP t	ICC	IOC	Total	
SOFAP (medical needles)	HCFC-141b	8.5	0.93	108,000	25,000	133,000	15.72
SNCFT (Railways)	HCFC-141b	3.8	0.41	n/a	n/a	16,920	4.50
Total HCFC-141b		12.2	1.34	108,000	25,000	149,920	20.22
Hachicha High World Wide (HHW)	HCFC-22	18.8	1.03	166,000	118,125	284,125	15.15
Société Afrivision	HCFC-22	9.0	0.50	93,000	56,700	149,700	16.63
Société Electrostar	HCFC-22	42.0	2.31	166,000	264,600	430,600	10.25
Société Industrielle Mega	HCFC-22	9.5	0.52	94,000	59,850	153,850	16.19
Service sector	HCFC-22	89.0	4.9	n/a	n/a	400,000	4.50
Total HCFC-22		168.3	9.26	519,000	499,275	1,418,275	8.43
Project management		n/a	n/a	n/a	n/a	150,000	n/a
Total HCFC		180.5	10.6	627,000	524,275	1,718,195	9.52

Impact on the climate

37. The Multilateral Fund Climate Impact Indicator (MCII) was used to calculate the climate impact of four enterprises in the conversion of the room air-conditioning sub-sector from HCFC-22 to HC-290 and, for demonstration purposes, to HFC-410A. The number of units was extrapolated using the known number of units manufactured in 2012 and the consumption figures in 2012 and 2013 to be able to use the higher 2013 production data; this was undertaken in order to ensure that the data of climate impact and of ODS phase-out would relate to the production figures of the same year. The results are shown in Table 8.

Table 8. Impact on the climate associated with four conversions in the room air-conditioning sub-sector

Input	Generic		
	Country	[-]	Tunisia
	Company data (name, location)	[-]	4 enterprises
	Select system type	[list]	Air-conditioning - on site assembly (split air conditioner)
	General refrigeration information		
	HCFC to be replaced	[-]	HCFC-22
	Amount of refrigerant per unit	[kg]	0.824 (av.)
	No. of units	[-]	87,300
	Refrigeration capacity	[kW]	3.35 (av.)
	Selection of alternative with minimum environmental impact		
	Share of exports (all countries)	[%]	0
	Calculation of the climate impact		
	Alternative refrigerant (more than one possible)	[list]	HFC-410A, HC-290

NOTE: All data displayed is specific to the case investigated and is not generic information about the performance of one alternative; performance can differ significantly depending on the case.

<i>Note: The output is calculated as the climate impact of the refrigerant systems in their life time as compared to HCFC-22, on the basis of the amount produced within one year. Additional/different outputs are possible</i>		
Country		Tunisia
Identification of the alternative technology with minimum climate impact		
List of alternatives for identification of the one with minimum climate impact	[Sorted list, best = top (% deviation from HCFC)]	HC-290 (-31%) HFC-134a (-8%) HFC-407C (-1%) HCFC-22 HFC-410A (6%) HFC-404A (32%)
Calculation of the climate impact of the conversion		
Alternative refrigerant 1		HC-290
Total direct impact (post conversion – baseline)*	[t CO ₂ equiv]	-190,524
Indirect impact (country)**	[t CO ₂ equiv]	3,399
Indirect impact (outside country)**	[t CO ₂ equiv]	0
Total indirect impact	[t CO ₂ equiv]	3,399
Total impact	[t CO₂ equiv]	-187,125
Alternative refrigerant 2		HFC-410A
Total direct impact (post conversion – baseline)*	[t CO ₂ equiv]	5,176
Total indirect impact (country)**	[t CO ₂ equiv]	30,592
Total indirect impact (outside country)**	[t CO ₂ equiv]	0
Total indirect impact**	[t CO ₂ equiv]	30,592
Total impact	[t CO₂ equiv]	35,768

*Direct impact: Different impact between alternative technology and HCFC technology for the substance-related emissions.

**Indirect impact: Difference in impact between alternative technology and HCFC technology for the energy-consumption-related emissions of CO₂ when generating electricity.

38. Table 8 indicates a decrease in the climate impact of air-conditioning units manufactured in one year using HC-290 of 187,125 tonnes of CO₂ equivalent over their lifetime; this would include refrigerant used for subsequent servicing and the energy related emissions of the units. Changes in energy consumption play only a limited role since the annual operation time of air conditioners in Tunisia is moderate, and mainly at moderate temperature levels.

39. The proposed technical assistance activities in the HPMP, which include the introduction of better servicing practices, enforcement of HCFC import controls, more frequent preventive servicing of equipment and timely replacement of old equipment, will reduce the amount of HCFC-22 used for refrigeration servicing. Each kilogramme of HCFC-22 not emitted due to better refrigeration practices results in the savings of approximately 1.8 CO₂-equivalent tonnes. However, given the limited

information available at this time, the Secretariat is not in a position to quantitatively estimate the impact of the HPMP on the climate. The impact might be established through an assessment of implementation reports by, *inter alia*, comparing the levels of refrigerants used annually from the beginning of HPMP implementation, the reported amounts of refrigerants being recovered and recycled, the number of technicians trained and the HCFC-based equipment being retrofitted.

Co-financing

40. In response to decision 54/39(h) on potential financial incentives and opportunities for additional resources to maximize the environmental benefits from HPMPs pursuant to paragraph 11(b) of decision XIX/6 of the Nineteenth Meeting of the Parties, UNIDO explained that in stage I of the HPMP, while co-financing was discussed, there were as yet no specific activities which would be included for stage I, but will be discussed in more detail for stage II.

2014-2016 business plan of the Multilateral Fund

41. UNIDO is requesting US \$1,718,195 plus support costs for the implementation of stage I of the HPMP. The total value included in the business plan for the period 2014-2016 is US \$1,639,608. The funding requested for the first tranche of the HPMP is within the amount allocated by UNIDO for Tunisia in its business plan for 2014.

Draft Agreement

42. A draft Agreement between the Government of Tunisia and the Executive Committee for HCFC phase-out is contained in Annex II to the present document.

RECOMMENDATION

43. The Executive Committee may wish to consider:
- (a) Approving, in principle, stage I of the HCFC phase-out management plan (HPMP) for Tunisia for the period 2014 to 2018 to reduce HCFC consumption by 10 per cent of the baseline, at the amount of US \$1,718,195, plus agency support costs of US \$120,274 for UNIDO;
 - (b) Noting that the Government of Tunisia had agreed to establish as its starting point for sustained aggregate reduction in HCFC consumption the baseline of 40.7 ODP tonnes, calculated using actual consumption of 44.3 ODP tonnes and 37.0 ODP tonnes reported for 2009 and 2010, respectively, under the Article 7 of the Montreal Protocol; plus 5.02 ODP tonnes of HCFC-141b contained in imported pre-blended polyols systems, resulting in 45.72 ODP tonnes;
 - (c) Deducting 10.6 ODP tonnes of HCFCs from the starting point for sustained aggregate reduction in HCFC consumption;

- (d) Approving the draft Agreement between the Government of Tunisia and the Executive Committee for the reduction in consumption of HCFCs, as contained in Annex I to the present document; and
- (e) Approving the first tranche of stage I of the HPMP for Tunisia, and the corresponding implementation plans, at the amount of US \$596,575, plus agency support costs of US \$41,760 for UNIDO.

Annex I

DRAFT AGREEMENT BETWEEN THE GOVERNMENT OF TUNISIA AND THE EXECUTIVE COMMITTEE OF THE MULTILATERAL FUND FOR THE REDUCTION IN CONSUMPTION OF HYDROCHLOROFLUOROCARBONS

1. This Agreement represents the understanding of the Government of Tunisia (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 36.63 ODP tonnes by 1 January 2018 in compliance with Montreal Protocol schedules.
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, 4.3.3 and 4.4.3 (remaining eligible consumption).
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 HCFC phase-out sector plans submitted. 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.
5. The Executive Committee will not provide the Funding in accordance with the Funding Approval Schedule unless 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 had 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 no obligation for reporting of country programme data exists 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, unless the Executive Committee decided that such verification would not be required;
 - (c) That the Country had submitted annual implementation reports in the form of Appendix 4-A (“Format of 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 an annual 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.

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 annual implementation plans in accordance with their roles and responsibilities set out in Appendix 5-A. This monitoring will also be subject to independent verification as described in paragraph 4 above.

7. The Executive Committee agrees that the Country may have the flexibility to reallocate the approved funds, or part of the 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 an annual implementation plan submitted as foreseen in sub paragraph 5(d) above, or as a revision to an existing annual 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; and
 - (iv) Provision of funding for programmes or activities not included in the current endorsed annual implementation plan, or removal of an activity in the annual implementation plan, with a cost greater than 30 per cent of the total cost of the last approved tranche;
- (b) Reallocations not categorized as major changes may be incorporated in the approved annual implementation plan, under implementation at the time, and reported to the Executive Committee in the subsequent annual implementation report;
- (c) Should the Country decide during implementation of the agreement to introduce an alternative technology other than that proposed in the approved HPMP, this would require approval by the Executive Committee as part of an Annual Implementation Plan or the revision of the approved plan. Any submission of such a request for change in technology would identify the associated incremental costs, the potential impact to the climate, and any differences in ODP tonnes to be phased out if applicable. The Country agrees that potential savings in incremental costs related to the change of technology would decrease the overall funding level under this Agreement accordingly;
- (d) Any enterprise to be converted to non-HCFC technology included in the approved HPMP and that would be found to be ineligible under the guidelines of the Multilateral Fund (i.e., due to foreign ownership or establishment post the 21 September 2007 cut-off date), will not receive assistance. This information would be reported to the Executive Committee as part of the Annual Implementation Plan; and

- (e) Any remaining funds will be returned to the Multilateral Fund upon completion of the last tranche foreseen under this Agreement.
8. Specific attention will be paid to the execution of the activities in the refrigeration servicing sub-sector, 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 the bilateral and implementing agencies involved will take full account of the requirements of decisions 41/100 and 49/6 during the implementation of the plan.
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 any of the agencies taking part in this Agreement.
10. The Lead IA will be responsible for ensuring co-ordinated planning, implementation and reporting of all activities under this Agreement, including but not limited to independent verification as per sub-paragraph 5(b). The Executive Committee agrees, in principle, to provide the Lead IA with the fees set out in row 2.2 of Appendix 2-A.
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 these decisions are taken, this specific case will not be an impediment 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 decision that may affect the funding of any other consumption sector projects or any other related activities in the Country, with the exception of the provision contained in Appendix 8-A.
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.
14. The completion of stage I of the HPMP 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 there at that time still be activities that are outstanding, and which were foreseen in the Plan and its subsequent revisions as per sub-paragraph 5(d) and paragraph 7, the completion 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 unless otherwise specified by the Executive Committee.

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.

APPENDICES

APPENDIX 1-A: THE SUBSTANCES

Substance	Annex	Group	Starting point for aggregate reductions in consumption (ODP tonnes)
HCFC-22	C	I	39.01
HCFC-141b	C	I	1.61
HCFC-142b	C	I	0.04
Sub-total			40.70
HCFC-141b contained in imported pre-blended polyols	C	I	5.02
Total			45.67

APPENDIX 2-A: THE TARGETS, AND FUNDING

Row	Particulars	2014	2015	2016	2017	2018	Total
1.1	Montreal Protocol reduction schedule of Annex C, Group I substances (ODP tonnes)	40.70	36.63	36.63	36.63	36.63	n/a
1.2	Maximum allowable total consumption of Annex C, Group I substances (ODP tonnes)	40.70	36.63	36.63	36.63	36.63	n/a
2.1	Lead IA (UNIDO) agreed funding (US \$)	596,575	928,293	0	193,327	0	1,718,195
2.2	Support costs for Lead IA (US \$)	41,760	64,981	0	13,533	0	120,274
3.1	Total agreed funding (US \$)	596,575	928,293	0	193,327	0	1,718,195
3.2	Total support costs (US \$)	41,760	64,981	0	13,533	0	120,274
3.3	Total agreed costs (US \$)	638,335	993,274	0	206,860	0	1,838,469
4.1.1	Total phase-out of HCFC-22 agreed to be achieved under this Agreement (ODP tonnes)						9.26
4.1.2	Phase-out of HCFC-22 to be achieved in previously approved projects (ODP tonnes)						0
4.1.3	Remaining eligible consumption for HCFC-22 (ODP tonnes)						29.75
4.2.1	Total phase-out of HCFC-141b agreed to be achieved under this Agreement (ODP tonnes)						1.34
4.2.2	Phase-out of HCFC-141b to be achieved in previously approved projects (ODP tonnes)						0
4.2.3	Remaining eligible consumption for HCFC-141b (ODP tonnes)						0.27
4.3.1	Total phase-out of HCFC-142b agreed to be achieved under this Agreement (ODP tonnes)						0
4.3.2	Phase-out of HCFC-142b to be achieved in previously approved projects (ODP tonnes)						0
4.3.3	Remaining eligible consumption for HCFC-142b (ODP tonnes)						0.04
4.4.1	Total phase-out of HCFC-141b contained in imported pre-blended polyols agreed to be achieved under this Agreement (ODP tonnes)						0
4.4.2	Phase-out of HCFC-141b contained in imported pre-blended polyols to be achieved in previously approved projects (ODP tonnes)						0
4.4.3	Remaining eligible consumption for HCFC-141b contained in imported pre-blended polyols (ODP tonnes)						5.02

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 IMPLEMENTATION REPORTS AND PLANS

1. The submission of the Implementation Report and Plan for each tranche request will consist of five parts:

- (a) A narrative report, with data provided by calendar year, regarding the progress since the year prior to 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 ODS phase-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 Annual 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. The narrative report will cover all relevant years specified in sub-paragraph 5(a) of the Agreement and can in addition also include information on activities in the current year;
- (b) A verification report of the HPMP results and the consumption of the Substances mentioned in Appendix 1-A, 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 until and including the year of the planned submission of the next tranche request, highlighting 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 cover the years specified in sub-paragraph 5(d) of the Agreement. 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 annual implementation reports and annual implementation plans, submitted through an online database. This quantitative information, to be submitted by calendar year with each tranche request, will be amending the narratives and description for the report (see sub-paragraph 1(a) above) and the plan (see sub-paragraph 1(c) above), the annual implementation plan and any changes to the overall plan, and will cover the same time periods and activities; and

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

APPENDIX 5-A: MONITORING INSTITUTIONS AND ROLES

1. The National Ozone Unit (NOU) will monitor the effectiveness of implementing of the different components under the HPMP, including monitoring compliance with phase-out levels and the impact of all of the activities against the set objectives and goals.

2. The National Commission for the Protection of the Ozone Layer in close cooperation and co-ordination with the NOU and support of the Lead IA will play a key role in monitoring the HPMP implementation through establishing and managing a comprehensive monitoring database for the implementation of all activities under the HPMP. The NOU will undertake monitoring, reporting and record keeping on:

- (a) ODS import/export, including data collection from local importers;
- (b) ODS use of different sectors; including data collection from manufacturers and surveys conducted by the Project Management Unit;
- (c) Amount of recovered, recycled, unwanted quantities of ODS;
- (d) Regular update on projects' deliverables as per targeted milestones;
- (e) Plans, progress reports and completion reports of components and projects; and
- (f) Information on ODS-based equipment, banks and status of its operation and retirement.

3. The Lead IA, in cooperation with the NOU, will prepare detailed terms of reference for the monitoring database and will contract accordingly the technical institution that can develop this database. The operation and management of the database will be carried out through a consultant that will act as the database administrator and monitoring coordinator for the HPMP of the Country.

4. The verification will, in addition to other tasks, also cover the reports generated regarding achievements under the HPMP implementation.

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 Implementation Plans and subsequent reports as per Appendix 4-A;
- (c) Providing independent verification to the Executive Committee that the Targets have been met and associated annual activities have been completed as indicated in the 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 annual implementation plans consistent with sub-paragraphs 1(c) and 1(d) of Appendix 4-A;
- (e) Fulfilling the reporting requirements for the annual implementation reports, annual implementation plans and the overall plan as specified in Appendix 4-A for submission to the Executive Committee;
- (f) Ensuring that appropriate independent technical experts carry out the technical reviews;
- (g) Carrying out required supervision missions;
- (h) Ensuring the presence of an operating mechanism to allow effective, transparent implementation of the Implementation Plan and accurate data reporting;
- (i) 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 each implementing or bilateral agency involved;
- (j) Ensuring that disbursements made to the Country are based on the use of the indicators; and
- (k) Providing assistance with policy, management and technical support when required.

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 \$324 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.

APPENDIX 8-A: PROVISION FOR MODIFICATION OF FUTURE TRanches FUNDING LEVEL RELATED TO PHASE-OUT IN THE REFRIGERATION AND AIR-CONDITIONING MANUFACTURING SECTOR

1. The funding for the conversion of the four enterprises in the refrigeration and air-conditioning manufacturing sector has been agreed on the basis of equipment and processes available and knowledge at the time of the discussion of stage of the HPMP in the Country. The funding currently provides for leak detection and charging equipment and processes which are designed for large scale production, making them not cost effective for use in smaller productions. The purchase of equipment for these four enterprises will only commence after the approval of the second tranche.

2. Should different manufacturing technologies and processes suitable for these enterprises emerge before the submission of the second tranche, it has been agreed that the funding for the second and/or third tranche and, with that, the overall funding level could be reduced accordingly.

3. The activities and items for which costs might be reduced under these provisions are provided in Table 1 below:

Table 1. Activities and items for which a cost reduction might be discussed

Enterprises	Incremental capital costs agreed at the 72 nd Meeting (US \$)	Potential candidates for cost reduction	
		Current cost for charging equipment (US \$)	Current cost for leak detector (US \$)
Hachicha High World Wide (HHW)	166,000	50,000	50,000
Société Afrivision	93,000	50,000	0
Société Electrostar	166,000	50,000	50,000
Société Industrielle Mega	94,000	50,000	0
Total	519,000	200,000	100,000
