



**United Nations
Environment
Programme**

Distr.
GENERAL

UNEP/OzL.Pro/ExCom/68/45
5 November 2012

ORIGINAL: ENGLISH



EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Sixty-eighth Meeting
Montreal, Canada, 3-7 December 2012

PROJECT PROPOSALS: YEMEN

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

Fumigant

- Terminal phase-out of methyl bromide (third tranche) Germany

Phase-out

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

**PROJECT EVALUATION SHEET
YEMEN**

PROJECT TITLE**BILATERAL/IMPLEMENTING AGENCY**

Terminal phase-out of methyl bromide (third tranche)	Germany
--	---------

NATIONAL CO-ORDINATING AGENCY:

Ministry of Water and Environment,
Environment Protection Authority

LATEST REPORTED CONSUMPTION DATA FOR ODS ADDRESSED IN PROJECT**A: ARTICLE-7 DATA (ODP TONNES, 2011, AS OF OCTOBER 2012)**

MB	18.1		

B: COUNTRY PROGRAMME SECTORAL DATA (ODP TONNES, 2011, AS OF OCTOBER 2012)

ODS	Aerosol	Foam	Ref. Mfg.	Ref. Servicing	Solvents	Process agent	Fumigant
MB							18.1

CFC consumption remaining eligible for funding (ODP tonnes)

CURRENT YEAR BUSINESS PLAN: Total funding US \$225,325: Total phase-out 11.9 ODP tonnes.

PROJECT DATA		2008	2010	2012	2014	2015	Total
MB (ODP tonnes)	Montreal Protocol limits	43.6	43.6	43.6	43.6	0.0	
	Annual consumption limit	30.0	30.0	20.0	0.0	0.0	
	Annual phase-out newly addressed	5.9	10.0	10.0	10.0	0.0	35.9
TOTAL ODS CONSUMPTION TO BE PHASED OUT		5.9	10.0	10.0	10.0		35.9
Final project costs (US \$):							
Funding for Germany		201,450	200,000	200,000			601,450
Total project funding		201,450	200,000	200,000			601,450
Final support costs (US \$):							
Support cost for Germany		25,509	25,325	25,325			76,159
Total support costs		25,509	25,325	25,325			76,159
TOTAL COST TO MULTILATERAL FUND (US \$)		226,959	225,325	225,325			677,609
Cost effectiveness (US \$/kg)							16.75

FUNDING REQUEST: Approval of funding for the third tranche (2012) as indicated above.

SECRETARIAT'S RECOMMENDATION

Blanket approval

PROJECT DESCRIPTION

1. On behalf of the Government of Yemen the Government of Germany has submitted to the 68th meeting of the Executive Committee a request for funding the third (and final) tranche of the terminal phase-out of methyl bromide (MB) plan, at a total cost of US \$200,000, plus agency support costs of US \$25,325. The submission also includes a progress report on the implementation of the MB plan during 2011-2012 and the implementation programme for 2013 and 2014.

Background

2. At its 56th meeting, the Executive Committee approved US \$601,450 as the total funds that will be available to Yemen to achieve the complete phase-out of controlled uses of MB in soil fumigation. It also approved an agreement between the Government and the Executive Committee. Since then, a total of US \$401,450, plus agency support costs of US \$50,834 has been approved.

Progress report

3. The following activities have been implemented since the approval of the second tranche of the project: MB imports have been controlled through the licensing and quota system. As solarization and bio-fumigation had shown good results only in warm areas, chemical fumigation with dazomet was tested in cold areas with preliminary positive results; additional testing is required in all relevant areas in the country to further assess the efficacy of the technology. Several meetings took place with key stakeholders for exploring the potential on using natural herbs available locally for soil fumigation; a work plan for assessing the use of herbs as a soil fumigant by a team of 44 persons was approved. This technique is under examination by experts from Sana'a University and the Yemeni Inventors and Researchers Association. Approximately 623 farmers participated actively in training courses, 437 in solarisation, 170 in bio-fumigation, and 16 in alternative fumigants. Farm materials and supplies were provided to 103 farmers, while awareness material on MB alternatives was disseminated among major stakeholders.

4. As of August 2012, of the US \$401,450 approved for the first two tranches, US\$298,243 had been disbursed and US \$93,200 had been obligated, as shown in Table 1. The balance of US \$10,007 will be disbursed during 2013.

Table 1. Summary of funding allocated and disbursed for the MB phase-out projects in Yemen

Description	Funds (US \$)				
	Allocated	Disbursed*	Obligated**	Balance	Requested
Equipment, training, awareness	60,200	19,276	45,000	-4,076	70,000
Subcontracts	52,800	33,500	20,000	-700	20,000
Personnel (including consultants)	173,550	142,139	26,400	5,011	70,000
Travel expenses	76,600	58,653	800	17,147	30,000
Operating	38,300	44,676	1,000	-7,376	20,000
Total	401,450	298,243	93,200	10,007	210,000

(*) As of August 2012.

(**) September to December 2012.

2013-2014 work programme

5. The Government will implement the following activities with the funding available from the third (and final) tranche of the project: additional training to 500 farmers, MB importers and engineers in the introduction of alternative technologies in the various climatic regions in the country will be carried out; application of solarization in combination with chemical treatment with dazomet in cold areas will continue; and continue the research on local herbs for soil fumigation with the Yemeni Inventors

Researchers Association. Cooperation with the Faculty of Agriculture at Sana'a University in new research on soil fumigation will be enhanced, as well as the coordination with agricultural colleges and vocational institutions for introducing MB alternatives in their curricula. The licensing system for controlling MB imports will be improved and necessary amendments on ODS legislation will be introduced in order to ban the import of MB by 1 January 2015. Public awareness and information dissemination activities will also be implemented.

SECRETARIAT'S COMMENTS AND RECOMMENDATION

COMMENTS

6. The 2011 MB consumption reported by the Government of Yemen under Article 7 of the Montreal Protocol of 18.1 ODP tonnes is 1.9 ODP tonnes below the maximum allowable level for that year under the agreement between the Government and the Executive Committee. The Government has informed that, through the MB quota system, the total amount of MB to be imported in 2012 will not exceed the maximum level of 10.0 ODP tonnes set under the agreement. The complete phase-out of MB is expected by 1 January 2014.

7. As described in the HPMP for Yemen submitted to the 68th meeting, the difficulties prevailing in the country had a negative impact on the economy, resulting in a substantial reduction in HCFC consumption, i.e., from 158.59 ODP tonnes in 2010 to 71.88 ODP tonnes in 2011 (or over 55 per cent reduction). However, this situation was not the case with MB, where the consumption was reduced only by 8 per cent (i.e., from 19.6 ODP tonnes to 18.1 ODP tonnes over the same period). As explained by the Government of Germany the severe political situation in 2011 reduced HCFC consumption significantly, as the main crisis took place in regions where at least 95 per cent of the total HCFCs is consumed. However, MB uses for soil fumigation are concentrated in areas close to the border with Saudi Arabia where the main economic activity is in the agriculture sector. These areas, having the highest MB consumption and the lowest HCFC use, allowed for an increase in agricultural production to satisfy the demand of all the other areas.

8. The Secretariat inquired on the potential use of chemical treatment with dazomet in cold areas where solarization and bio-fumigation technologies had poor results in controlling pests. The Government of Germany explained that the success of dazomet in soil fumigation in Yemen could not be concluded and needs to be tested at different areas. This testing is being proposed in the 2013-2014 work plan. Although dazomet is registered in Yemen with no restriction on its import, and the local price is reasonable (US \$4.00/kg), it is not yet readily available in the local market.

9. Issues related to the long-term sustainability of the various alternative technologies being introduced, and the extent to which they have been accepted by the growers were discussed and addressed. The Government of Germany further explained that the licensing system will play an important role in controlling the demand of MB. As the supply of MB in the local market decreases, its price will increase over other alternative technologies. Furthermore, importation of MB will be completely stopped on 1 January 2015. The sustainability will also be supported by expanding the on-the-job training on solarization and bio-fumigation technologies to cover approximately 500 additional farmers; developing and testing other alternative techniques and technologies; encouraging local traders to supply material requirements of those alternatives in the local market. Introducing the Montreal Protocol requirements related to agriculture into the curricula of agricultural colleges and vocational institutes and supporting their researches will play an essential role in avoiding reverting to the use of MB. Public awareness activities in cooperation with local authorities, leaders of tribes, and non-governmental organizations (NGOs) will also contribute to the sustainable use of alternatives.

RECOMMENDATION

10. The Fund Secretariat recommends that the Executive Committee:
- (a) Takes note of the progress report on the implementation of the second tranche of the terminal phase-out of methyl bromide (MB) plan for Yemen;
 - (b) Approves the 2013-2014 annual implementation programme associated with the third (and final) tranche; and
 - (c) Requests the Government of Germany to submit the project completion report to the Executive Committee soon after completion of the 2013-2014 annual implementation programme.
11. The Secretariat further recommends blanket approval of the 2013–2014 plan associated with the third (and final) tranche of the terminal phase-out of MB plan with associated support costs at the funding level shown in the table below.

	Project Title	Project Funding (US \$)	Support Costs (US \$)	Implementing Agency
(a)	Terminal phase-out of methyl bromide (third tranche)	200,000	25,325	Germany

**PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS
THE REPUBLIC OF YEMEN**

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

(II) LATEST ARTICLE 7 DATA (Annex C Group I)	Year: 2011	71.88 (ODP tonnes)
---	------------	--------------------

(III) LATEST COUNTRY PROGRAMME SECTORAL DATA (ODP tonnes)								Year: 2011	
Chemical	Aerosol	Foam	Fire fighting	Refrigeration		Solvent	Process agent	Lab Use	Total sector consumption
				Manufacturing	Servicing				
HCFC-123	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HCFC-124	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HCFC-141b	0.0	0.0	0.0	0.0	0.58	0.0	0.0	0.0	0.58
HCFC-141b in Imported Pre-blended Polyol	0.0	11.13	0.0	0.0	0.0	0.0	0.0	0.0	11.13
HCFC-142b	0.0	0.0	0.0	0.0	1.08	0.0	0.0	0.0	1.08
HCFC-22	0.0	0.0	0.0	0.91	70.84	0.0	0.0	0.0	71.75

(IV) CONSUMPTION DATA (ODP tonnes)			
2009 - 2010 baseline:	158.2	Starting point for sustained aggregate reductions:	175.75
CONSUMPTION ELIGIBLE FOR FUNDING (ODP tonnes)			
Already approved:	0.0	Remaining:	112.47

(V) BUSINESS PLAN		2012	2013	2014	2015
UNEP	ODS phase-out (ODP tonnes)	1.50	0.00	1.50	0.00
	Funding (US \$)	93,214	0	93,235	0
UNIDO	ODS phase-out (ODP tonnes)	16.37	522.82	2.57	2.57
	Funding (US \$)	935,992	9,200	151,761	225,750

(VI) PROJECT DATA			2012	2013	2014	2015	Total
Montreal Protocol consumption limits			n/a	158.20	158.20	142.38	n/a
Maximum allowable consumption (ODP tonnes)			n/a	158.20	158.20	134.47	n/a
Project Costs requested in principle(US\$)	UNEP	Project costs	215,000	0	165,000	0	380,000
		Support costs	27,950	0	21,450	0	49,400
	UNIDO	Project costs	410,000	0	0	0	410,000
		Support costs	28,700	0	0	0	28,700
Total project costs requested in principle (US \$)			625,000	0	165,000	0	790,000
Total support costs requested in principle (US \$)			56,650	0	21,450	0	78,100
Total funds requested in principle (US \$)			681,650	0	186,450	0	868,100

(VII) Request for funding for the first tranche (2012)			
Agency	Funds requested (US \$)		Support costs (US \$)
UNEP	215,000		27,950
UNIDO	410,000		28,700

Funding request:	Approval of funding for the first tranche (2012) as indicated above
Secretariat's recommendation:	Individual consideration

PROJECT DESCRIPTION

12. On behalf of the Government of Yemen UNEP, as the lead implementing agency, has submitted to the 68th meeting of the Executive Committee stage I of the HCFC phase-out management plan (HPMP) at a total cost of US \$868,100, consisting of US \$380,000, plus agency support costs of US \$49,400 for UNEP, and US \$410,000, plus agency support costs of 28,700 for UNIDO, as originally submitted, to implement activities that will enable the country to comply with the Montreal Protocol's 10 per cent reduction step in HCFC consumption by 2015. The first tranche for stage I being requested at this meeting amounts to US \$681,650, consisting of US \$215,000, plus agency support costs of US \$27,950 for UNEP, and US \$410,000, plus agency support costs of US \$28,700 for UNIDO.

Background

13. Yemen is confronted with a range of difficult economic and security issues. Oil production dropped substantially beginning in 2007 and, because of the hydrocarbon sector's dominance of the economy, the loss of oil revenue and continued large energy subsidies had a strong negative impact on public finances and the balance of payments. The political events of 2011 exacerbated the economic challenges with uprisings continuing throughout the year. The damage to infrastructure, though not extensive, was far-reaching in its impact and attacks on oil pipelines and electricity facilities caused severe fuel shortages and electricity outages. As a result, economic activity fell sharply in 2011.

14. Yemen, with a total population of about 24.8 million inhabitants has ratified all the amendments to the Montreal Protocol.

ODS regulations

15. The Government of Yemen enacted Decree 275/2006 on ODS legislation in July 2006 which includes all elements needed to ensure compliance with the Montreal Protocol and its phase-out control measures. Control of HCFC import/export is covered by the licensing system operating under the Ministerial Decree and its bylaws. The National Ozone Unit (NOU) reviews and updates the list of controlled substances on a regular basis including HCFC-based blends that are being introduced into the local market. The NOU enforces the legislation by registering and licensing ODS importers and has implemented the quota system for all ODS substances. Quotas for imports of HCFCs and HCFC-based blends will commence as of 2013.

HCFC consumption and sector distribution

16. The 2005-2011 levels of HCFC consumption reported under Article 7 of the Montreal Protocol are shown in Table 1. The HCFC baseline for compliance has been calculated at 158.2 ODP tonnes. Yemen is notably affected by the introduction of fake and poor quality refrigerants into the local market. Although the situation with fake CFCs has been managed and controlled by the Ozone Unit and customs officers based on the training so far implemented, the introduction of other counterfeit refrigerants, including HCFC-22 and HFC-134a, has expanded. This has led to the establishment of a local refrigeration association to, among other things, combat fake refrigerants.

Table 1. HCFC consumption in Yemen (Article 7)

HCFC	2005	2006	2007	2008	2009	2010	2011	Baseline
Metric tonnes								
HCFC-22	1,264.0	1,853.0	2,212.0	2,761.0	2,834.3	2,841.5	1,279.05	2,837.9
HCFC-141b		7.2	6.7	9.2	8.2	11.2	4.75	9.7
HCFC-142b					15.3	16.6	15.50	16.0
Total (mt)	1,264.0	1,860.2	2,218.7	2,770.2	2,857.9	2,869.3	1,299.30	2,863.6
ODP tonnes								
HCFC-22	69.5	101.9	121.7	151.9	155.9	156.3	70.35	156.1

HCFC	2005	2006	2007	2008	2009	2010	2011	Baseline
HCFC-141b		0.8	0.7	1.0	0.9	1.2	0.52	1.1
HCFC-142b					1.0	1.1	1.01	1.0
Total (ODP tonnes)	69.5	102.7	122.4	152.9	157.8	158.6	71.88	158.2

17. The political and economic crisis in the recent past has had an impact on the demand for HCFCs and, as a result, HCFC consumption decreased from 158.6 ODP tonnes to 71.88 ODP tonnes between 2010 and 2011. It is expected that consumption will increase to 176.96 ODP tonnes in 2012.

18. HCFC-22, which represents over 99 per cent of the HCFC baseline, is mainly used for servicing refrigeration equipment, consisting of 4.5 million small air-conditioning units; 0.5 million commercial refrigeration systems including cold rooms used in food processing and ice making; and 0.1 million central air conditioning systems and chillers. Small amounts of R-406A (a blend of HCFC-22, HCFC-142b and R-600a) are also used for servicing CFC-12 based refrigeration equipment still in operation, while small amounts of HCFC-141b are used as a solvent for flushing refrigeration circuits. This equipment is being serviced by 13,000 technicians (5,400 of whom are registered), working in approximately 800 small- and 700 medium-to-large-size workshops.

19. HCFC-22 is also used in small quantities for the manufacturing/assembly of commercial refrigeration equipment, including water coolers, display cabinets, freezers, commercial refrigerators and some cold rooms, by 25 small-size enterprises as shown in Table 3.

Table 3. HCFC-22 consumption used in the manufacturing of refrigeration equipment in Yemen

	Enterprise name	Metric tonnes					ODP tonnes				
		2007	2008	2009	2010	2011	2007	2008	2009	2010	2011
1	Al-Hayat Factory	0.65	0.92	1.60	0.57	0.22	0.04	0.05	0.09	0.03	0.01
2	Abo- Hashem	0.08	0.13	0.22	0.40	0.18	0.00	0.01	0.01	0.02	0.01
3	Al- Aggi Star	0.06	0.12	0.14	0.17	0.07	0.00	0.01	0.01	0.01	0.00
4	Alarab and Al-Alam	1.56	1.69	2.32	0.18	0.07	0.09	0.09	0.13	0.01	0.00
5	Al-Azab	0.28	0.50	0.75	0.90	0.36	0.02	0.03	0.04	0.05	0.02
6	Alma'azabi	0.03	0.12	0.25	0.77	0.31	0.00	0.01	0.01	0.04	0.02
7	Almadenah Factory	0.63	1.12	2.65	0.12	0.05	0.03	0.06	0.15	0.01	0.00
8	Almukalah Factory	1.02	1.47	1.94	0.16	0.07	0.06	0.08	0.11	0.01	0.00
9	Al-Naser Factory	0.47	0.72	0.81	0.36	0.15	0.03	0.04	0.04	0.02	0.01
10	Al-Sharafee	0.64	1.15	1.22	1.73	0.70	0.04	0.06	0.07	0.10	0.04
11	Altag	0.68	1.03	1.33	2.55	0.96	0.04	0.06	0.07	0.14	0.05
12	AlTag Aden	0.80	1.06	1.22	2.26	0.83	0.04	0.06	0.07	0.12	0.05
13	AlZoom	0.31	0.56	0.73	0.88	0.35	0.02	0.03	0.04	0.05	0.02
14	Badeeb (Al-Bahr)	1.41	2.05	3.41	0.72	0.26	0.08	0.11	0.19	0.04	0.01
15	Bamco	0.54	0.74	0.98	1.30	0.55	0.03	0.04	0.05	0.07	0.03
16	Binta	0.08	0.20	0.22	-	-	0.00	0.01	0.01	-	-
17	Cristal	0.04	0.04	0.04	0.06	0.01	0.00	0.00	0.00	0.00	0.00
18	Makah Factory	0.32	1.02	0.65	0.16	0.07	0.02	0.06	0.04	0.01	0.00
19	Masteel Factory	0.09	0.17	0.27	0.68	0.24	0.00	0.01	0.01	0.04	0.01
20	Nagman	0.94	1.49	1.79	2.48	0.97	0.05	0.08	0.10	0.14	0.05
21	Sat Factory	0.76	1.53	1.93	2.15	0.90	0.04	0.08	0.11	0.12	0.05
22	Shamsan	0.13	0.16	0.17	0.25	0.00	0.01	0.01	0.01	0.01	0.00
23	Specyal Factory	1.03	1.38	2.05	0.16	0.06	0.06	0.08	0.11	0.01	0.00
24	Sterco	0.67	0.88	1.56	2.02	0.68	0.04	0.05	0.09	0.11	0.04
25	Super Steel Factory	0.07	0.13	0.28	0.56	0.23	0.00	0.01	0.02	0.03	0.01
	Total	13.28	20.38	28.52	21.57	8.25	0.73	1.12	1.57	1.19	0.45

20. In addition, HCFC-141b contained in pre-blended polyols is imported into the country, with a 2007-2009 average consumption of 159.57 mt (17.55 ODP tonnes) as shown in Table 4.

Table 4. Amount of HCFC-141b in pre-blended polyols imported into Yemen

	Enterprise	Metric tonnes					ODP tonnes				
		2007	2008	2009	2010	2011	2007	2008	2009	2010	2011
1	Styrco*	4.60	5.20	6.20	8.60	3.66	0.51	0.57	0.68	0.95	0.40
2	Nagman*	5.40	6.50	7.00	9.00	3.84	0.59	0.72	0.77	0.99	0.42
3	Super Steel Factory	0.95	1.13	1.50	2.10	0.90	0.10	0.12	0.17	0.23	0.10
4	Masteel Factory	0.80	1.20	1.44	3.00	1.28	0.09	0.13	0.16	0.33	0.14
5	Alma'azabi	1.20	1.50	1.80	2.40	1.02	0.13	0.17	0.20	0.26	0.11
6	Al-Aggi Star	0.60	0.90	1.80	2.70	1.15	0.07	0.10	0.20	0.30	0.13
7	Altag Sana'a	6.00	7.00	10.50	11.00	4.69	0.66	0.77	1.16	1.21	0.52
8	Altag Aden	7.00	8.00	12.50	13.00	5.50	0.77	0.88	1.38	1.43	0.61
9	Al-Azab	10.00	20.00	23.50	26.00	11.08	1.10	2.20	2.59	2.86	1.22
10	Alsharafee	20.00	25.00	27.00	30.00	12.78	2.20	2.75	2.97	3.30	1.41
11	Bamco	17.65	21.00	23.40	27.90	12.87	1.94	2.31	2.57	3.07	1.42
12	Sat Factory	28.00	30.00	45.00	61.00	24.00	3.08	3.30	4.95	6.71	2.64
13	Delta	6.00	7.00	9.00	11.00	5.00	0.66	0.77	0.99	1.21	0.55
14	Al-Zoom	18.00	20.00	23.00	26.00	11.70	1.98	2.20	2.53	2.86	1.29
15	Akhwan Thabet	0.60	0.40	0.30	0.20	1.00	0.07	0.04	0.03	0.02	0.11
16	Abo-Hashem	0.75	1.10	1.30	1.90	0.70	0.08	0.12	0.14	0.21	0.08
	Total	127.55	155.93	195.24	235.80	101.15	14.03	17.15	21.48	25.94	11.13

(*) Second-stage conversions.

21. Assistance for the conversion from CFC-11 to HCFC-141b foam blown technology has been provided through the Multilateral Fund for the following enterprises:

- (a) Funding for the conversion from CFC-11 to HCFC-141b and CFC-12 to HFC-134a technology in the manufacture of commercial refrigeration equipment at Styrco (US \$90,231) and Nagman (US \$105,641), was approved at the 35th meeting (December 2001). US \$35,000 was allocated to each enterprise to replace a low-pressure machine; additionally, one-year operating costs amounting to US \$15,331 for Styrco and US \$30,741 for Nagman were also allocated. Both enterprises were successfully converted to non-CFC technologies;
- (b) A project for the conversion of ten commercial refrigeration manufacturing enterprises from CFC-11 to HCFC-141b (with an average annual consumption slightly above 4.00 ODP tonnes/enterprise), and CFC-12 to HFC-134a, was included in the national CFC phase-out plan (NPP) for Yemen submitted to the 55th meeting (July 2008), following the adoption by the Parties of decision XIX/6 on the acceleration of HCFC phase-out in September 2007. Noting that the only commercially available foam blowing technology was HCFC-141b, and that the 2010 compliance target would not allow for the introduction of another technology, the Executive Committee approved the NPP for Yemen on the understanding that, *inter alia*, once other ODS-free technologies became available, the Government could submit, as part of its HPMP, a request for second-stage conversion to a non-ODS technology for those enterprises covered under the NPP (decision 55/40). However, during implementation of the project, seven of the ten enterprises converted to pentane technology, while three enterprises selected HCFC-141b technology the conversion of these three enterprises is still on-going).

22. The current prices of HCFCs and alternative refrigerants per kilogram in the country are: US \$3.76 for HCFC-22, US \$15.39 for HFC-134a; US \$20.50 for R-404A; and US \$16.61 for R-600a; US \$7.87 for R-406A; and US \$21.33 for R-407C.

HCFC phase-out strategy

23. The overarching phase-out strategy focuses on the refrigeration and air-conditioning servicing sector where 99 per cent of the total HCFC consumption is used. Stage I of the HPMP aims at meeting the 2013 freeze and the 10 per cent reduction target in 2015 through training for servicing technicians, management of fake refrigerants, strengthening the recovery and recycling scheme, minimizing emissions of HCFC refrigerants and HCFC-141b use as a solvent during servicing, and technical support to the fisheries sector. For stage II, the Government is proposing to provide technical assistance to the enterprises which are assembling/manufacturing commercial refrigeration equipment to replace HCFC-22 with alternative refrigerants. It is expected that, at that time, alternative technologies with low global-warming potential (GWP) will be available and imported refrigeration and air-conditioning equipment will be based on environmentally friendly technologies. The Government will then be able to enact and implement legislation to ban imports of HCFC-based equipment. During stage II, technical assistance will also be provided to phase out the use of HCFC-141b in imported pre-blended polyols, based on an evaluation of low-GWP cost-effective alternative blowing agents.

Main activities and costs of stage I the HPMP

24. The total cost of implementing stage I of the HPMP for Yemen to meet the Montreal Protocol's HCFC compliance targets up to and including the 10 per cent reduction by 2015, representing the phase-out of 277.64 mt (15.82 ODP tonnes) of HCFCs (i.e., HCFC-22 and HCFC-141b), has been estimated at US \$930,000, of which US \$140,000 will come from the balance of the NPP. The cost for each of the activities to be implemented is presented in Table 5 below.

Table 5. Estimated cost of the activities proposed in stage I of the HPMP for Yemen

Activities	Funding (US \$)			Agency
	NPP	HPMP	Total	
<u>Policy enforcement and curbing illegal trade:</u> Operation of an e-licensing system; training programme for 500 customs officers; and 12 ODS identification kits	5,000	205,000	210,000	UNEP
<u>Training programme for refrigeration service technicians:</u> Training for 350 service workshops; implementation of a code of good practices; establishment of a campaign to combat fake refrigerants; technical assistance to the fisheries sector	55,000	155,000	210,000	UNEP
<u>Technical assistance for the refrigeration servicing sector:</u> Distribution of 100 ODS identification kits; strengthening the recovery/recycling scheme (i.e., upgrade the 85 recovery/recycling units to handle HCFC-22 supplied under the RMP/NPP; additional 100 vacuum pumps; 400 recovery cylinders; and supply of 100 flushing units)		410,000	410,000	UNIDO
Project implementation and monitoring	80,000	20,000	100,000	UNEP
Total cost	140,000	790,000	930,000	

SECRETARIAT'S COMMENTS AND RECOMMENDATION**COMMENTS**

25. The Secretariat reviewed the HPMP for Yemen in the context of the NPP approved at the 55th meeting, 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 2012-2014 business plan of the Multilateral Fund. The Secretariat discussed technical and cost-related issues with UNEP and UNIDO, which were addressed and summarized below.

Status of implementation of the NPP

26. At its 55th meeting, the Executive Committee approved US \$1,825,500, plus agency support costs for UNEP and UNIDO for the implementation of the NPP for Yemen (UNEP/OzL.Pro/ExCom/55/43 and Add.1). Except for methyl bromide (MB) and HCFCs, the Government of Yemen has reported zero consumption of ODS in 2010 and 2011.

27. Through the implementation of the NPP, five training centres for refrigeration technicians were established and equipped, and 800 technicians received training on good refrigeration practices and retrofitting. These centres with the equipment provided will be used during implementation of the HPMP. In total, 50 recovery and 15 recovery and recycling machines have been distributed among technicians and can be used for servicing multiple refrigerant-based equipment. Also, 21 ODS identification kits have been distributed among customs officers and will be used during implementation of the HPMP.

28. As of September 2012, of the total funding approved, US \$1,572,504 has been disbursed as shown in Table 6. The Government of Yemen has agreed that the remaining balance of US \$140,000 will be fully utilized for activities associated with stage I of the HPMP. As explained by UNIDO, the balance of US \$112,996 is associated with the installation of equipment, trials, commissioning and payment of operating costs to the three foam enterprises covered under the NPP. Given the travel constraints, UNIDO has not been able to complete the conversion. On the suggestion by the Secretariat, UNIDO agreed to utilize the remaining funding to complete the conversion of the three enterprises and assess the feasibility of introducing a non-HCFC-141b technology.

Table 6. Status of funds approved for implementation of the NPP for Yemen

NPP	Agency	Fund (US \$)			% remaining
		Approved	Disbursed	Balance	
First tranche (55 th meeting)	UNIDO	1,137,500	1,109,722	27,778	2.44
	UNEP	315,000	315,000		
Second tranche (60 th meeting)	UNIDO	233,000	147,782	85,218	36.57
	UNEP	140,000		140,000	
Total		1,825,500	1,572,504	252,996	13.86

Operational licensing system

29. In line with decision 63/17, a written confirmation has been received from the Government stating that a working national licensing and quota system for HCFC imports and exports is in place and is capable of ensuring the country's compliance with the Montreal Protocol's HCFC phase-out schedule.

Issues regarding HCFC consumption

30. From 1995 to 2005, consumption of HCFC-22 in Yemen grew on average at a rate of 8 per cent/year. However, consumption substantially increased to 1,853.0 mt (101.9 ODP tonnes) in 2006 reaching 2,841.5 mt (156.3 ODP tonnes) in 2010. Due to the difficult circumstances prevailing in the country in 2010-2011, the consumption decreased to 1,279.05 mt (70.35 ODP tonnes) in 2011.

31. In light of the socio-economic conditions in the country, the Secretariat concluded that, based on the following facts, the HCFC consumption reported between 2006 and 2010 appeared to be high:

- (a) The economy is highly dependent on oil resources which are declining in Yemen. Petroleum accounts for roughly 25 per cent of gross domestic product (GDP) and represents 70 per cent of the Government's revenue. Most people are employed in agriculture and herding (i.e., rural population with very limited access to electricity). Services, construction, industry, and commerce account for less than one-fourth of the

labour force. Moreover, according to the International Energy Agency (IEA), only 39.6 per cent of the total population in Yemen has access to electricity (i.e., 9.35 million inhabitants);

- (b) The per capita consumption of HCFC of over 300 gr (for the population with access to electricity) is higher than that for Iraq, Jordan and Oman, each with a per capita GDP higher than that of Yemen; and
- (c) In addition to the consumption of HCFC-22, 1,270.7 mt of other refrigerants (mostly HFC-134a) were imported into the country, resulting in a total consumption of 4,112.2 mt of refrigerants in 2010.

32. Responding to the above observations, UNEP acknowledged the fact that Yemen's HCFC consumption seems irregular compared to other Article 5 countries. Apparently the electrification rate reported by the IEA represents only Government grid coverage and does not encompass the almost 40 per cent of electrically powered houses in urban and rural areas that are covered by private or cooperative networks and not by the Government. Therefore, there are approximately 1.6 million electrically powered households and a large number of buildings where different types of air conditioning systems are installed. In the calculation of HCFC-22 used for servicing, a leakage rate of 15 per cent per annum was used; although the feedback received through the national survey from servicing technicians indicate leakage rates of 25 to 30 per cent. UNEP also highlighted the problem of the very poor quality of HCFC-22 available on the local market, directly contributing to a remarkable increase in the demand of refrigerants as the equipment has to be serviced several times. To address this major problem, the HPMP is proposing a special component to support the servicing sector by supplying an adequate number of ODS identifiers to monitor the local trade and quality of refrigerants throughout the country. The efficient control of the quality of refrigerants should substantially reduce market demand, thus decreasing consumption of HCFC-22 and other refrigerants (mainly HFC-134a).

Starting point for aggregate reduction in HCFC consumption

33. The Government of Yemen has agreed to establish as its starting point for sustained aggregate reduction in HCFC consumption the established baseline of 158.2 ODP tonnes, calculated using consumption of 157.8 ODP tonnes and 158.6 ODP tonnes reported for 2009 and 2010, respectively, under Article 7 of the Montreal Protocol, plus 17.55 ODP tonnes of HCFC-141b contained in imported pre-blended polyol systems, resulting in 175.75 ODP tonnes.

Technical and cost-related issues

34. The Secretariat is of the view that addressing the consumption of HCFC-22 in the servicing sector during stage I of the HPMP is the most cost-effective and environmentally sound approach to meeting the 2013 and 2015 phase-out targets in Yemen for the following reasons: over 99 per cent of the HCFC consumption is used for servicing refrigeration and air-conditioning systems; the amount of HCFC-22 for manufacturing/assembling commercial refrigerator systems is very low, and currently there are no viable low-GWP alternative technologies in the country that would allow for a cost-effective and sustainable conversion of this sector; HCFC-141b used by the foam enterprises is imported in pre-blended polyols and, therefore, not reported under Article 7 of the Protocol; and the feasibility and viability of alternative technologies for phasing out HCFC-141b in pre-blended polyols will be assessed during stage I. Based on the results of that assessment, a foam sector plan will be submitted together with stage II of the HPMP.

35. In further discussions with UNEP and UNIDO, the Secretariat was informed that through the activities in the servicing sector proposed for stage I, which includes training of refrigeration technicians and the distribution of ODS identification kits so they can determine the quality of the HCFC-22 being used for servicing, the Government of Yemen is committed to reducing its HCFC baseline consumption

by 15 per cent in 2015. Additionally, the Government will phase out 719.09 mt (39.55 ODP tonnes) of HCFC-22 without assistance from the Multilateral Fund and has agreed to reduce this amount from its starting point for aggregate reduction in HCFC consumption.

36. With regard to the funding of stage I of the HPMP, it should be noted that:

- (a) The Government of Yemen is requesting US \$790,000 for stage I of the HPMP to phase out 23.73 ODP tonnes of HCFCs, representing a 15 per cent reduction from its HCFC baseline by 2015;
- (b) The balance of US \$140,000 available for UNEP from the NPP will be used to cover some of the costs of the activities included in stage I; while the balance of US \$112,996 available from UNIDO will be used to complete the conversion of three foam enterprises covered under the NPP and will assess the feasibility of introducing a non-HCFC-141b technology;
- (c) The level of funding requested in the first tranche (representing 79 per cent) is required to purchase the equipment and tools needed for the technicians to facilitate the immediate reduction in the high consumption of HCFCs; and
- (d) The overall cost-effectiveness of the activities proposed in the refrigeration servicing sector is US \$1.87/kg based on the funding level of US \$790,000 requested under the HPMP (or US \$2.21/kg including US \$140,000 from the NPP).

37. With regard to potential constraints in the implementation of the activities proposed in the HPMP, due to the difficult circumstances prevailing in Yemen, UNEP and UNIDO explained that at the time of the preparation of the HPMP due consideration was given to the travel constraints of their staff and experts. All of the activities proposed in stage I of the HPMP are related to the servicing sector for national execution by local experts. Throughout the years of implementing multi-year agreements for ODS phase-out, the NOU has been assisted by sound and reliable operational teams covering all governorates and capable of working on the ground in spite of difficult situations. UNEP and UNIDO are jointly discussing an approach for an independent verification to the results of implementation of the HPMP. One of the options under consideration is the use of a national independent institution or consulting firm.

Impact on the climate

38. The proposed technical assistance activities in the HPMP, which include the introduction of better servicing practices and potential retrofit of HCFC-22-based equipment to hydrocarbon and, to a lesser extent, ammonia and carbon dioxide (CO₂), would result in the reduction of CO₂-equivalent emissions into the atmosphere. The Government of Yemen is also proposing to introduce equipment with natural refrigerants, mainly hydrocarbons, and the phase-out of HCFC-141b used for flushing refrigeration circuits, which will contribute to further reduce CO₂ emissions. 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-22-based equipment being retrofitted.

Co-financing

39. In response to decision 54/39(h) on the 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 during preparation of the HPMP, the Government of Yemen made efforts to identify ways and means of capturing future climate-change-related revenue streams based on the current United Nations Framework Convention on Climate Change requirements to assist in funding its HPMP. Existing Clean Development Mechanism (CDM) methodologies are not applicable in Yemen as they do not cover the servicing sector. Consequently, it is necessary to further investigate whether CDM methodologies could be expanded to cover the entire HCFC servicing sector in Yemen.

2012-2014 business plan of the Multilateral Fund

40. UNEP and UNIDO are requesting US \$681,650 including agency support costs for implementation of stage I of the HPMP, covering the period 2012-2014. This amount is below the total amount in the business plan.

Draft Agreement

41. A draft Agreement between the Government of Yemen and the Executive Committee for HCFC phase-out is contained in Annex I of the present document.

RECOMMENDATION

42. The Executive Committee may wish to consider:

- (a) Approving, in principle, stage I of the HCFC phase-out management plan (HPMP) for Yemen for the period 2012 to 2015 to reduce HCFC consumption by 15 per cent of the baseline, at the amount of US \$868,100, consisting of US \$380,000, plus agency support costs of US \$49,400 for UNEP, and US \$410,000, plus agency support costs of US \$28,700 for UNIDO;
- (b) Noting that the Government of Yemen had agreed to establish as its starting point for sustained aggregate reduction in HCFC consumption the baseline of 158.2 ODP tonnes, calculated using consumption of 157.8 ODP tonnes and 158.6 ODP tonnes reported for 2009 and 2010, respectively, under Article 7 of the Montreal Protocol, plus 17.55 ODP tonnes of HCFC-141b contained in imported pre-blended polyol systems, resulting in 175.75 ODP tonnes;
- (c) Deducting 63.28 ODP tonnes of HCFCs from the starting point for sustained aggregate reduction in HCFC consumption;
- (d) Approving the draft Agreement between the Government of Yemen and the Executive Committee for the reduction in consumption of HCFCs, as contained in Annex I to the present document;
- (e) Approving the first tranche of stage I of the HPMP for Yemen, and the corresponding implementation plan, at an amount of US \$681,650, consisting of US \$215,000, plus agency support costs of US \$27,950 for UNEP, and US \$410,000, plus agency support costs of US \$28,700 for UNIDO; and
- (a) Approving the reallocation of funding remaining from the CFC national phase-out plan of US \$140,000, plus agency support costs of US \$18,200 for UNEP, as agreed by the Government of Yemen in line with the implementation plan provided.

Annex I

**DRAFT AGREEMENT BETWEEN THE GOVERNMENT OF THE REPUBLIC OF YEMEN
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 the Republic of Yemen (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 134.47 ODP tonnes by 1 January 2015 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; and
- (c) 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. UNEP has agreed to be the lead implementing agency (the “Lead IA”) and UNIDO has

agreed to be the cooperating implementing agency (the “Cooperating IA”) under the lead of the Lead IA in respect of the Country’s activities under this Agreement. The Country agrees to evaluations, which might be carried out under the monitoring and evaluation work programmes of the Multilateral Fund or under the evaluation programme of 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). This responsibility includes the necessity to co-ordinate with the Cooperating IA to ensure appropriate timing and sequence of activities in the implementation. The Cooperating IA will support the Lead IA by implementing the activities listed in Appendix 6-B under the overall co-ordination of the Lead IA. The Lead IA and Cooperating IA have reached consensus on the arrangements regarding inter-agency planning, reporting and responsibilities under this Agreement to facilitate a co-ordinated implementation of the Plan, including regular co-ordination meetings. The Executive Committee agrees, in principle, to provide the Lead IA and the Cooperating IA with the fees set out in rows 2.2 and 2.4 of Appendix 2-A.

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.

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

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	156.10
HCFC-141b	C	I	1.10
HCFC-142b	C	I	1.00
Sub-total			158.20
HCFC-141b in imported polyol			17.55
Total			175.75

APPENDIX 2-A: THE TARGETS, AND FUNDING

Row	Particulars	2012	2013	2014	2015	Total
1.1	Montreal Protocol reduction schedule of Annex C, Group I substances (ODP tonnes)	n/a	158.20	158.20	142.38	n/a
1.2	Maximum allowable total consumption of Annex C, Group I substances (ODP tonnes)	n/a	158.20	158.20	134.47	n/a
2.1	Lead IA UNEP agreed funding (US \$)	215,000	0	165,000	0	380,000
2.2	Support costs for Lead IA (US \$)	27,950	0	21,450	0	49,400
2.3	Cooperating IA UNIDO agreed funding (US \$)	410,000	0	0	0	410,000
2.4	Support costs for Cooperating IA (US \$)	28,700	0	0	0	28,700
3.1	Total agreed funding (US \$)	625,000	0	165,000	0	790,000
3.2	Total support costs (US \$)	56,650	0	21,450	0	78,100
3.3	Total agreed costs (US \$)	681,650	0	186,450	0	868,100
4.1.1	Total phase-out of HCFC-22 agreed to be achieved under this Agreement (ODP tonnes)					62.18
4.1.2	Phase-out of HCFC-22 to be achieved in previously approved projects (ODP tonnes)					0.00
4.1.3	Remaining eligible consumption for HCFC-22 (ODP tonnes)					93.92
4.2.1	Total phase-out of HCFC-141b agreed to be achieved under this Agreement (ODP tonnes)					1.10
4.2.2	Phase-out of HCFC-141b to be achieved in previously approved projects (ODP tonnes)					0.00
4.2.3	Remaining eligible consumption for HCFC-141b (ODP tonnes)					0.00
4.3.1	Total phase-out of HCFC-142b agreed to be achieved under this Agreement (ODP tonnes)					0.00
4.3.2	Phase-out of HCFC-142b to be achieved in previously approved projects (ODP tonnes)					0.00
4.3.3	Remaining eligible consumption for HCFC-142b (ODP tonnes)					1.00
4.4.1	Total phase-out of HCFC-141b contained in imported pre-blended polyols agreed to be achieved under this Agreement (ODP tonnes)					0.00
4.4.2	Phase-out of HCFC-141b contained in imported pre-blended polyols to be achieved in previously approved projects (ODP tonnes)					0.00
4.4.3	Remaining eligible consumption for HCFC-141b contained in imported pre-blended polyols (ODP tonnes)					17.55

APPENDIX 3-A: FUNDING APPROVAL SCHEDULE

1. Funding for the future tranches will be considered for approval at the last 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. In order to ensure that all activities are taking place as planned in the HPMP and to ensure close collaboration between the Lead IA and Cooperating IA, a project implementation and monitoring component is included, to monitor effectiveness of implementation of the HPMP (including reductions of HCFC consumption levels), and to measure the impact of training and assistance programmes on the

overall phase-out strategy. Implementation of the HPMP will be undertaken by the National Ozone Unit (NOU) with support from the Environment Protection Agency's (EPA) offices in the Governorates.

2. The NOU will be responsible for the overall implementation of the HPMP. It will take advantage of the presence of the regional EPA offices in the Governorates and utilize their services in the implementation of the various components in their region.

APPENDIX 6-A: ROLE OF THE LEAD IMPLEMENTING AGENCY

3. 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. The reporting requirements include the reporting about activities undertaken by the Cooperating IA;
 - (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) Co-ordinating the activities of the Cooperating IA, and ensuring appropriate sequence of activities;
 - (j) In case of reductions in funding for failure to comply in accordance with paragraph 11 of the Agreement, to determine, in consultation with the Country and the Cooperating IA, the allocation of the reductions to the different budget items and to the funding of each implementing or bilateral agency involved;
 - (k) Ensuring that disbursements made to the Country are based on the use of the indicators; and
 - (l) Providing assistance with policy, management and technical support when required.

4. 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 6-B: ROLE OF THE COOPERATING IMPLEMENTING AGENCY

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

- (a) Providing assistance for policy development when required;
- (b) Assisting the Country in the implementation and assessment of the activities funded by the Cooperating IA, and refer to the Lead IA to ensure a co-ordinated sequence in the activities; and
- (c) Providing reports to the Lead IA on these activities, for inclusion in the consolidated reports as per Appendix 4-A.

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

6. In accordance with paragraph 11 of the Agreement, the amount of funding provided may be reduced by US \$66.58 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.