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EXECUTIVE COMMITTEE OF  
THE MULTILATERAL FUND FOR THE  
IMPLEMENTATION OF THE MONTREAL PROTOCOL  
Sixty-fifth Meeting  
Bali, Indonesia, 13-17 November 2011

**PROJECT PROPOSAL: DOMINICAN REPUBLIC**

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) UNDP/UNEP

## PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS

## Dominican Republic

<b>(I) PROJECT TITLE</b>	<b>AGENCY</b>
HCFC phase out plan (Stage I)	UNDP (lead), UNEP

<b>(II) LATEST ARTICLE 7 DATA</b>	Year: 2010	53.90 (ODP tonnes)
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<b>(III) LATEST COUNTRY PROGRAMME SECTORAL DATA (ODP tonnes)</b>							<b>Year: 2010</b>		
Chemical	Aerosol	Foam	Fire fighting	Refrigeration		Solvent	Process agent	Lab Use	Total sector consumption
				Manufacturing	Servicing				
HCFC-123					0.10				0.10
HCFC-141b					0.60				0.60
HCFC-141b polyol		19.51							19.51
HCFC-22					50.41				50.41

<b>(IV) CONSUMPTION DATA (ODP tonnes)</b>			
2009 - 2010 baseline:	51.20	Starting point for sustained aggregate reductions:	70.71
<b>CONSUMPTION ELIGIBLE FOR FUNDING (ODP tonnes)</b>			
Already approved:	3.74	Remaining:	43.57

<b>(V) BUSINESS PLAN</b>		2011	2012	2013	2014	2015	Total
UNDP	ODS phase-out (ODP tonnes)	3.0	2.6	3.0	0.8	-	9.4
	Funding (US \$)	283,836	236,144	283,837	78,714	-	882,531

<b>(VI) PROJECT DATA</b>			2010	2011	2012	2013	2014	2015	Total
Montreal Protocol consumption limits			n/a	n/a	n/a	51.20	51.20	46.08	n/a
Maximum allowable consumption (ODP tonnes)			n/a	n/a	n/a	51.20	51.20	46.08	n/a
Project Costs requested in principle(US\$)	UNDP	Project costs	332,775	680,000	-	463,450	-	170,000	1,646,225
		Support costs	24,958	51,000	-	34,759	-	12,750	123,467
	UNEP	Project costs	-	25,000	-	25,000	-	-	50,000
		Support costs	-	3,250	-	3,250	-	-	6,500
Total project costs requested in principle (US \$)			332,775	705,000	-	488,450	-	170,000	1,696,225
Total support costs requested in principle (US \$)			24,958	54,250	-	38,009	-	12,750	129,967
Total funds requested in principle (US \$)			357,733	759,250	-	526,459	-	182,750	1,826,192

<b>(VII) Request for funding for the first tranche (2011)</b>		
Agency	Funds requested (US \$)	Support costs (US \$)
UNDP	680,000	51,000
UNEP	25,000	3,250

<b>Funding request:</b>	Approval of funding for the first tranche (2011) as indicated above
<b>Secretariat's recommendation:</b>	Individual consideration

## PROJECT DESCRIPTION

1. On behalf of the Government of Dominican Republic, UNDP, as the lead implementing agency, has submitted to the 65<sup>th</sup> meeting of the Executive Committee stage I of the HCFC phase-out management plan (HPMP) at a total cost of US \$1,940,575 plus agency support costs of US \$138,793 for UNDP and US \$11,700 for UNEP, as originally submitted. These amounts include US \$332,775 plus agency support costs of US \$24,958 for UNDP for a project to phase out 3.74 ODP tonnes of HCFC-141b used in the manufacture of polyurethane rigid insulation foam for commercial refrigerators at FARCO approved at the 61<sup>st</sup> meeting. Implementation of the activities proposed in stage I of the HPMP will result in the phase-out of 30.47 ODP tonnes of HCFCs, enabling the country to comply with the Montreal Protocol's 10 per cent reduction in HCFC consumption by 2015.

2. The first tranche for stage I being requested at this meeting amounts to US \$821,400 plus agency support costs of US \$61,605 for UNDP and US \$40,000 plus agency support costs of US \$5,200 for UNEP, as originally submitted.

### Background

3. Dominican Republic, with a total population of 9.3 million inhabitants, has ratified all the amendments to the Montreal Protocol.

### ODS regulations

4. The Government of Dominican Republic has established laws, decrees and standards to control the import, sale, use and distribution of ODS. Law 64-2000 on the Protection of the Environment and Natural Resources declares the protection of the ozone layer and the gradual phase-out and elimination of ODS to be a national interest. The timetable to phase out the consumption of controlled substances has been revised and adjusted to include HCFCs. The quota system for HCFCs will be introduced once the HCFC baseline for compliance has been established and will be effective as of 1 January 2012. A total of 20 companies are currently authorized to import HCFC- and HFC-based refrigerants, and six additional enterprises are authorized to import HCFC-141b-based polyols.

### HCFC consumption and sector distribution

5. The two main HCFCs consumed in the country are HCFC-22, used for servicing refrigeration and air-conditioning systems, and HCFC-141b used for flushing refrigeration equipment. Small amounts of HCFC-123 are also imported, as shown in Table 1.

**Table 1: HCFC consumption in Dominican Republic reported under Article 7 of the Montreal Protocol**

HCFC	2005	2006	2007	2008	2009	2010
<b>Metric tonnes</b>						
HCFC-22	523.77	1,002.01	903.15	874.28	854.22	978.85
HCFC-141b	56.22	1.56	3.16	8.93	10.85	-
HCFC-123	-	-	0.08	16.40	15.35	4.00
Total (mt)	579.99	1,003.57	906.39	899.61	880.42	982.85
<b>ODP tonnes</b>						
HCFC-22	28.81	55.11	49.67	48.09	46.98	53.84
HCFC-141b	6.18	0.17	0.35	0.98	1.19	-
HCFC-123	-	-	0.00	0.33	0.31	0.08
Total (ODP tonnes)	34.99	55.28	50.02	49.40	48.48	53.92

6. Additionally, HCFC-141b-based polyol systems are imported into the country for the production of foam, as shown in Table 2. The HPMP for Dominican Republic estimated the HCFC consumption

baseline for compliance at 75.35 ODP tonnes, which take into account the average amount of HCFC-141b contained in polyols imported in 2009 and 2010.

**Table 2: HCFC-141b consumption in imported pre-blended polyols in Dominican Republic**

HCFC-141b in imported polyol	2005	2006	2007	2008	2009	2010
Metric tonnes			143.00	177.00	212.00	227.00
ODP tonnes	-	-	15.73	19.47	23.32	24.97

*Foam manufacturing sector*

7. At its 61<sup>st</sup> meeting, the Executive Committee approved US \$332,775 for UNDP for the phase-out of 34.00 mt (3.74 ODP tonnes) of HCFC-141b used in the manufacture of polyurethane rigid insulation foam for commercial refrigerators at Fábrica de Refrigeradores Comerciales, (FARCO). The project was approved on an exceptional basis, without prejudice to any future project, which would be subject to the conditions specified in decision 61/47 (i.e., consumption arising from HCFC-141b contained in pre-blended polyols).

8. There are an additional 13 small-sized enterprises manufacturing insulation foam for commercial refrigeration, cold rooms and doors, and spray and pour-in-place foam. These enterprises have between one and three different types of foam dispensers (spray, low-pressure and/or high-pressure) as shown in Table 3. Two of the enterprises, Metalgas and Paredomi, received assistance from the Fund to replace their CFC-11 foam production lines to HCFC-141b<sup>1</sup>.

**Table 3. Foam enterprises in the Dominican Republic using imported polyols containing HCFC-141b**

Enterprise	HCFC-141b (mt)				Average ODP t	Equipment
	2007	2008	2009	Average		
<b>Insulation foam for commercial refrigeration</b>						
Metalgas	8.00	9.00	9.00	8.67	0.95	2 HPD
Friger Dominicana	2.00	2.00	2.00	2.00	0.22	1 LPD2
<b>Doors, panels, refrigerated trucks</b>						
Ever Last Doors	25.00	60.00	75.00	53.33	5.87	2 HPD
Ever Door	11.00	12.00	13.00	12.00	1.32	1 HPD2
Alpa Import	5.00	3.00	9.00	5.67	0.62	1 HPD2
Paredomi	10.00	11.00	11.00	10.67	1.17	1 HPD; 1 SPD; 2 LPD
Grupo R	12.00	9.00	10.00	10.33	1.14	2 HPD
Furgones del Caribe	5.00	6.00	7.00	6.00	0.66	1 HPD
<b>Spray/pour-in-place</b>						
Xtrafrio	6.00	8.00	8.00	7.33	0.81	3 SPD
Selladores Cobian	5.00	6.00	7.00	6.00	0.66	2 SPD
Aislantes y Techos	11.00	5.00	12.00	9.33	1.03	2 SPD
Southern Solution	2.00	2.00	2.00	2.00	0.22	1 SPD
Francis Aislamiento	9.00	10.00	11.00	10.00	1.10	2 SPD
<b>Total</b>	<b>111.00</b>	<b>143.00</b>	<b>176.00</b>	<b>143.33</b>	<b>15.77</b>	

9. All of the enterprises use polyol systems containing HCFC-141b imported mainly from China and Mexico and, to a lesser extent, Spain (to be supplied by Panama in the future).

<sup>1</sup> At the 24<sup>th</sup> meeting US \$316,368 was allocated to UNDP to phase out 19.3 ODP tonnes of CFC-11 and 1.5 ODP tonnes CFC-12 used in the manufacture of commercial refrigeration equipment at Metalgas. At the 29<sup>th</sup> meeting US \$177,670 was allocated to UNDP to phase out 60.7 ODP tonnes of CFC-11 used in the manufacture of rigid polyurethane foam at Paredomi.

*Refrigeration servicing sector*

10. HCFC-22 is used by some 4,000 technicians to service mainly domestic air conditioning units, commercial refrigeration systems and refrigerated trucks and containers. There are also some industrial refrigeration systems in operation that are based on HCFC-22 and HCFC-123 refrigerants, as shown in Table 4. In 2010, 10.85 mt (1.19 ODP tonnes) of HCFC-141b were also used for flushing refrigeration circuits.

**Table 4. HCFC-based refrigeration equipment in operation in Dominican Republic**

Subsector	Units	Refrigerant charge*	Annual charge (%)	Consumption (mt)
Domestic air conditioner	162,508	HCFC-22	40 – 50	325.00
Commercial refrigerator	65,000	HCFC-22	40 – 50	203.13
Refrigerated truck	5,000	HCFC-22	3 – 5	21.25
Industrial refrigerator	1,090	HCFC-22, HCFC-123, R502	5 – 10	272.50
Refrigerated container	2,400	HCFC-22, R502	5 – 10	21.00
Total	235,998			842.88

(\*) R502 equipment is currently serviced with non-CFC refrigerants.

11. The current prices of HCFCs and alternative refrigerants per kilogram in the country are: US \$5.50 for HCFC-22, US \$15.40 for HFC-134a, US \$16.40 for HFC-404a, US \$17.50 for HFC-407A and US \$15.00 for HFC-410a.

HCFC phase-out strategy

12. The objective of the HPMP for Dominican Republic is to meet all of the Montreal Protocol's HCFC control targets on time. To meet its obligations, the Government is proposing to phase out HCFC-141b used in the manufacture of foam products, and control the consumption of HCFC-22 in servicing air conditioning and refrigeration equipment during stage I of the HPMP. Additionally, the Government is proposing to update the regulatory and institutional framework to facilitate the fulfilment of its Montreal Protocol commitments and to increase awareness about ozone layer protection. This fits with the overarching strategy based on the Government's commitment to incorporate the environmental dimension into the country's strategic plan without compromising the national economy, the development of business associated with ODS and the welfare of citizens.

*Conversion of the foam manufacturing enterprises*

13. In order to achieve the complete phase-out of HCFC-141b contained in imported polyol systems in the Dominican Republic, stage I proposes to convert all the enterprises manufacturing foam to methyl formate technology that will be provided mainly through systems houses in Mexico<sup>2</sup>. Methyl formate was proposed in response to the Government's request for a low global warming potential (GWP) alternative. The low levels of HCFCs used by all the foam enterprises make it both technically and economically unfeasible to introduce hydrocarbon-based polyols. Water-based systems do not meet most customers' requirements, and the assessment of methylal has not yet been completed. However, foam enterprises will be free to introduce other alternative technologies from their supplier with zero ODP and low GWP at no additional cost to the Multilateral Fund. All systems suppliers and the foam enterprises agreed to this approach.

14. The introduction of the methyl formate technology requires retrofitting the existing equipment in the baseline: US \$10,000 for each low-pressure dispenser; US \$15,000 for each high-pressure dispenser; and US \$5,000 for each spray dispenser. An additional US \$3,000 for each piece of equipment in the

<sup>2</sup> At the 64<sup>th</sup> meeting, the Executive Committee approved the HPMP for Mexico, which included assistance for the adaptation of the baseline equipment in the systems houses to allow for the production of methyl formate-based systems.

baseline is provided for trials, testing and training, and US \$5,000 for technology transfer to each enterprise. Contingencies are calculated at 10 per cent of the capital costs. Operating costs have been calculated on the basis of baseline prices and formulations from the participating systems houses and replacement formulations from technology providers, as well as the information gathered by UNDP from the methyl formate validation project. Accordingly, average operating costs were estimated at US \$0.20 per kilogram of formulated polyol system used. US \$15,000 is requested for each of the six systems houses that are supplying raw materials to the foam enterprises to assist in the optimization of the systems, as well as US \$20,000 for monitoring and regulations.

15. The total cost for the conversion of the foam enterprises has been estimated at US \$743,600 as shown in Table 5. The cost-effectiveness value of the project is US \$4.23/kg.

**Table 5. Total cost for the conversion of the foam enterprises in Dominican Republic**

Enterprise	HCFC-141b*		Total costs (US \$)		
	(mt)	(ODP t)	Capital**	Operating	Total
Metalgas	9.00	0.99	45,100	11,362	56,462
Friger Dominicana	2.00	0.22	19,800	2,525	22,325
Ever Last Doors	75.00	8.25	45,100	94,684	139,784
Ever Door	13.00	1.43	25,300	16,412	41,712
Alpa Import	9.00	0.99	25,300	11,362	36,662
Paredomi	11.00	1.21	62,700	13,887	76,587
Grupo R	10.00	1.10	45,100	12,624	57,724
Furgones del Caribe	7.00	0.77	25,300	8,837	34,137
Xtrafrio	8.00	0.88	31,900	10,573	42,473
Selladores Cobian	7.00	0.77	23,100	9,153	32,253
Aislantes y Techos	12.00	1.32	23,100	15,781	38,881
Southern Solution	2.00	0.22	14,300	2,683	16,983
Francis Aislamiento	11.00	1.21	23,100	14,518	37,618
Subtotal (foam enterprises)	176.00	19.36	409,200	224,400	633,600
Technology transfer (systems houses)					90,000
Monitoring, regulations					20,000
Total cost					743,600

(\*) Consumption in 2009.

(\*\*) Includes: cost for retrofitting equipment in the baseline; costs for trials, testing and training; and contingencies.

#### *Activities in the refrigeration servicing sector*

16. The proposed activities addressing the consumption of HCFC-22 and HCFC-123 used in the refrigeration servicing sector are based on the strategy and infrastructure established during the phase-out of CFCs in Dominican Republic. The specific activities to be implemented in stage I of the HPMP, at a total cost US \$714,200 and associated phase-out of 130.09 mt (7.15 ODP tonnes) of HCFC-22, are the following:

- (a) Strengthening of the legal and institutional framework to control the import and trade of HCFCs and HCFC-based equipment; training for additional customs officers; provision of ODS identification kits; and awareness-raising with major stakeholders on the need to phase out HCFCs for the implementation of the HPMP (US \$128,800);
- (b) Training programme and certification for technicians of the refrigeration and air conditioning servicing subsectors to: develop and implement the national certification system for refrigeration and air conditioning technicians; establish cooperation and collaboration with the Institute for Technical and Professional Education to consolidate

the country's training capacities for phasing out HCFC consumption; and certify 1,000 technicians in good servicing practices (US \$195,000);

- (c) Establishment of three additional recovery/recycling/reclaiming centres and six recovery/recycling centres to: provide recovery, recycling and reclamation services to the refrigeration and air conditioning subsectors; supply the market with certified reusable refrigerants; and support the activities of the service technicians that already have recovery/recycling equipment (US \$120,000);
- (d) Technical assistance for the refrigeration and air conditioning maintenance sector and end users to guide end-users on the proper use and disposal of ODS, the functioning of the refrigerant recovery, recycling and reclamation network, and on potential energy savings and reductions of emissions of greenhouse gases; and the introduction of good servicing practices, including recovery and recycling procedures to minimize refrigerant emissions into the atmosphere (US \$270,400).

#### *Project implementation and monitoring unit*

17. The HPMP proposes to establish a project implementation and monitoring unit that will report to the Ozone Unit to assist in implementation efforts and follow-up in the different geographic regions of the country; procure all the required equipment and tools; supervise the training activities; work directly with importers and customs officers to avoid illegal trade in ODS and ensure that the import regulations are being followed; assist in the development of the certification system for technicians, review the curriculum of technical schools and evaluate the training manuals; and report quarterly to UNDP (as the lead implementing agency). The cost associated with the establishment of the unit is US \$150,000.

#### Total cost of stage I of the HPMP

18. The total cost for the implementation of stage I of the HPMP as submitted is estimated at US \$1,940,575 (excluding agency support costs) to achieve the 10 per cent reduction in the HCFC consumption baseline and the complete phase-out of HCFC-141b contained in imported polyols. Table 6 presents the allocated funds for activities planned under the HPMP.

**Table 6: Total cost of stage 1 of the HPMP for Dominican Republic**

<b>Description</b>	<b>Cost (US\$)</b>
<b>Foam</b>	
Conversion of FARCO*	332,775
Conversion of 13 foam enterprises	743,600
Subtotal foam sector	1,076,375
<b>Refrigeration servicing</b>	
Strengthening of legal/institutional framework	128,800
Training and certification of technicians	195,000
Recovery, recycling, reclamation centres	120,000
Technical assistance for refrigeration servicing	270,400
Subtotal refrigeration servicing sector	714,200
<b>Monitoring, evaluation, reporting</b>	
Project monitoring unit	150,000
<b>Total cost</b>	<b>1,940,575</b>

(\*) Approved at the 61<sup>st</sup> meeting.

## SECRETARIAT'S COMMENTS AND RECOMMENDATION

### COMMENTS

19. The Secretariat reviewed the HPMP for Dominican Republic 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 60<sup>th</sup> Meeting (decision 60/44), subsequent decisions on HPMPs, and the 2011-2014 business plan of the Multilateral Fund. The Secretariat discussed technical and cost-related issues with UNDP and UNEP, which were satisfactorily addressed as summarized below.

#### Starting point for aggregate reduction in HCFC consumption

20. The HPMP for Dominican Republic estimated the HCFC consumption baseline for compliance at 74.75 ODP tonnes, which took into account the amount of HCFC-141b contained in imported polyols. However, based on the HCFC consumption reported under Article 7 of the Montreal Protocol, which excluded the amount of HCFC-141b in imported polyols, the baseline for compliance has been established at 51.20 ODP tonnes.

21. Based on decisions 60/44(d) (starting point for aggregate reduction in HCFC consumption) and 61/47(c)(ii) (consumption arising from HCFC-141b in imported polyols), the starting point for Dominican Republic is 70.71 ODP tonnes, calculated as the HCFC baseline for compliance established under Article 7 of 51.20 ODP tonnes plus the 2007-2009 average amount of HCFC-141b contained in imported preblended polyols of 19.51 ODP tonnes.

#### Issues related to the foam sector

22. In regard to the justification for the need to convert the foam enterprises to an alternative technology at this time given that the HCFC-141b used is not subject to compliance, UNDP indicated that the Government of Dominican Republic was pursuing policies to minimize negative impacts on the environment caused by the use of HCFC-141b in imported polyols, even though that use had not been reported as consumption under Article 7. In its overarching strategy the Government has prioritized the phase-out of the HCFC with the highest ODP value. Furthermore, the main suppliers of raw materials for the foam enterprises are systems houses located in Mexico which are in the process of replacing the HCFC-141b in their polyols with alternative blowing agents, mainly methyl formate. The Government is committed to ban the use of HCFC-141b as a foam blowing agent once the enterprises are converted to an alternative blowing agent.

23. Two of the enterprises, Metalgas and Paredomi, received assistance from the Fund to convert their CFC-11 foam production lines to HCFC-141b. With regard to Metalgas, the investment project approved at the 24<sup>th</sup> meeting (March 1998) was for the phase-out of both CFC-11 (foam) and CFC-12 (refrigerant). It included the installation of one foam machine and ancillary equipment at a cost of US \$121,000 (representing 38 per cent of the total approved cost of US \$316,368). An additional foam dispenser was subsequently purchased. For Paredomi, the investment project approved at the 29<sup>th</sup> meeting (November 1999) included US \$20,000 (the total capital cost) for retrofitting the equipment in the baseline. An additional high pressure foam dispenser was subsequently purchased. The total amount of HCFC-141b used by these two enterprises represents 13.5 per cent of that used by all foam enterprises covered by the project proposal. UNDP indicated that for the conversion of these two enterprises (as well as the other eleven enterprises covered under the project), funding (ranging from US \$5,000 for a spray foam dispenser to US \$15,000 for a high-pressure dispenser) has been requested for retrofitting the baseline equipment to allow the use of the alternative blowing agent (no new equipment will be provided). Furthermore, implementation of the foam project will result in the conversion of all HCFC-based manufacturing enterprises, and the complete phase-out of HCFC-141b contained in imported



polyols in Dominican Republic. These two enterprises would need to be converted at this time since they rely on the same systems houses supplying polyols to all other foam enterprises.

24. Cost-related issues were discussed and satisfactorily addressed. It was noted that the incremental operating costs in the original proposal were based on the amount of HCFC-141b used in 2009 rather than on the 2007-2009 average use as required under decision 61/47. An average cost of US \$0.20/kg of system was used, whereas the cost approved for the systems houses in Mexico was US \$0.15/kg of system. As a result, incremental operating costs were adjusted to US \$182,750. It was also agreed that funding for technical assistance/technology transfer should be provided at the enterprise level rather than through the systems providers resulting in a reduction of US \$25,000 and that the request for monitoring and regulations should be part of the project monitoring unit.

25. The total agreed cost of the foam project is US \$663,450, with a cost-effectiveness of US \$4.636/kg based on the 2007-2009 average consumption of HCFC-141b contained in imported polyols (or US \$3.77/kg based on the 2009 consumption), as shown in Table 7.

**Table 7. Total agreed cost for the conversion of the foam enterprises in Dominican Republic**

Enterprise	HCFC-141b*		Total costs (US \$)		
	(mt)	(ODP t)	Capital**	Operating	Total
Metalgas	8.67	0.95	50,600	9,253	59,853
Friger Dominicana	2.00	0.22	25,300	2,056	27,356
Ever Last Doors	53.33	5.87	50,600	77,110	127,710
Ever Door	12.00	1.32	30,800	13,366	44,166
Alpa Import	5.67	0.62	30,800	9,253	40,053
Paredomi	10.67	1.17	68,200	11,309	79,509
Grupo R	10.33	1.14	50,600	10,281	60,881
Furgones del Caribe	6.00	0.66	30,800	7,197	37,997
Xtrafrio	7.33	0.81	37,400	8,611	46,011
Selladores Cobian	6.00	0.66	28,600	7,454	36,054
Aislantes y Techos	9.33	1.03	28,600	12,852	41,452
Southern Solution	2.00	0.22	19,800	2,185	21,985
Francis Aislamiento	10.00	1.10	28,600	11,823	40,423
Subtotal (foam enterprises)	143.33	15.77	480,700	182,750	663,450
Technology transfer (systems houses)					-
Monitoring, regulations					-
Total cost					663,450

(\*) 2007-2009 average consumption.

(\*\*) Includes: cost for retrofitting equipment in the baseline; costs for trials, testing and training; and contingencies.

#### Issues related to the refrigeration servicing sector

26. In light of the results so far achieved in the refrigeration servicing sector under the refrigerant management plan (RMP) and the national CFC phase-out plan (NPP), and given that the only alternative refrigerants currently available in the country are HFC-based, which are, on average, three times more expensive than HCFC-22, it was suggested that part of the funding requested for training of customs officers and public awareness be reallocated to refrigeration servicing activities *per se*, and that the proposed activities for recovery and recycling and end-user retrofit incentive be combined into a broader technical assistance programme. This programme would be aimed to, *inter alia*, repair and prevent refrigerant leaks when servicing refrigeration systems; phase out the use of HCFC-141b in flushing refrigeration circuits; provide basic servicing tools for a limited number of certified workshops (i.e., brazing equipment, vacuum pumps, scales and leak detectors); assess the feasibility of assembling simple recycling machines, combined with a limited number of multi-refrigerant recovery/recycling machines that could be used for large refrigeration systems; import low-cost non-HCFC blends that could

be used for the various types of refrigeration equipment still in operation; and assess the technical viability and economic feasibility of HCFC-based refrigeration systems with high leakage rates that could be retrofitted to alternative refrigerants. UNDP and UNEP agreed with the above suggestion and revised the project accordingly. UNDP also confirmed that once the practice of flushing refrigeration circuits with HCFC-141b ceased, the Government will ban its use. The revised activities are shown in Table 8, which will result in the phase-out of 7.63 ODP tonnes of HCFCs.

**Table 8. Agreed cost of the refrigeration servicing activities**

Description	HCFC-141b*		HCFC-22		HCFC		Cost (US\$)
	mt	ODP t	mt	ODP t	mt	ODP t	
Strengthening legal framework			11.11	0.61	11.11	0.61	50,000
Training and certification of technicians			44.44	2.44	44.44	2.44	200,000
Technical assistance	5.43	0.60	72.35	3.98	77.78	4.58	350,000
Total	5.43	0.60	127.90	7.03	133.33	7.63	600,000

(\*) Used for flushing refrigeration circuits.

#### Total agreed cost of stage I of the HPMP

27. The total agreed cost for the implementation of stage I of the HPMP is estimated at US \$1,696,225 as shown in Table 9. It would result in a reduction of 7.63 ODP tonnes of HCFCs (i.e., 0.60 ODP tonnes of HCFC-141b and 7.03 ODP tonnes of HCFC-22), representing 14.9 per cent of the HCFC baseline for compliance and the complete phase-out of 177.33 mt (19.51 ODP tonnes) of HCFC-141b contained in imported polyols.

**Table 9: Total cost of stage 1 of the HPMP for Dominican Republic**

Description	HCFC-141b		HCFC-22		HCFC		Cost (US\$)
	mt	ODP t	mt	ODP t	mt	ODP t	
<b>Foam sector</b>							
Conversion of FARCO*	34.00	3.74			34.00	3.74	332,775
Conversion of 13 foam enterprises	143.33	15.77			143.33	15.77	663,450
<b>Refrigeration servicing</b>							
Strengthening legal framework			11.11	0.61	11.11	0.61	50,000
Training and certification of technicians			44.44	2.44	44.44	2.44	200,000
Technical assistance	5.43	0.60	72.35	3.98	77.78	4.58	350,000
Monitoring, evaluation, reporting							100,000
Total	182.76	20.11	127.91	7.03	310.67	27.14	1,696,225

(\*) Approved at the 61<sup>st</sup> meeting.

28. Given the level of HCFC consumption to be phased out by 2015 (i.e., 7.63 ODP tonnes representing 14.9 per cent of the baseline consumption), the Secretariat noted that implementation of stage I of the HPMP could assist Dominican Republic to make progress in meeting the control measures beyond 2015. In responding to this observation, UNDP indicated that stage I of HPMP would allow the Government of the Dominican Republic to comply with the 2013 and 2015 Protocol's control measures. Some of the proposed activities, such as restrictions on imports of HCFC-based equipment, would also contribute to a decrease in the servicing demand for HCFC-22 in the country.

#### Impact on the climate

29. A calculation of the impact on the climate of the HCFC-141b used by the foam enterprises in Dominican Republic, based only on the GWP values of the blowing agents and their level of consumption before and after conversion, is as follows: 177 mt of HCFC-141b (based on the 2007-2009 average consumption) will be phased out, 89 tonnes of methyl formate will be phased in, and 126,555 tonnes of CO<sub>2</sub> that would have been emitted into the atmosphere will be avoided (Table 10). Additionally, the phase-out of 5.43 mt of HCFC-141b used for flushing refrigeration circuits will avoid the emission of an

additional 3,937 tonnes of CO<sub>2</sub> into the atmosphere. The 2011-2014 business plan estimated this emission at 27,747 CO<sub>2</sub>-equivalent tonnes.

**Table 10. Calculation of the impact on the climate**

Substance	GWP	Tonnes/year	CO <sub>2</sub> -eq (tonnes/year)
<b>Before conversion</b>			
HCFC-141b (*)	725	177	128,325
<b>After conversion</b>			
Methyl formate	20	89	1,770
<b>Net impact</b>			(126,555)

(\*) Including 34.00 mt (3.74 ODP tonnes) of HCFC-141b used by FARCO.

30. Furthermore, the proposed technical assistance activities in the HPMP, which include the introduction of better servicing practices, recovery and recycling of refrigerants and enforcement of HCFC import controls, will reduce the amount of HCFC-22 used for refrigeration servicing. Each kilogram (kg) of HCFC-22 not emitted due to better refrigeration practices results in approximately 1.8 CO<sub>2</sub>-equivalent tonnes saved. A more precise forecast of the impact on the climate of the activities in the servicing sector is presently not available. 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

31. 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, UNDP explained that the actual cost required for complying with the Montreal Protocol targets is much higher than the funding being requested from the Multilateral Fund. The additional cost, which is difficult to estimate, will be co-financed by the Government. Furthermore, the Government of Dominican Republic is engaged at the regional level in exploring support for transition to low-GWP refrigerants.

#### 2011-2014 business plan of the Multilateral Fund

32. UNDP and UNEP are requesting US \$1,363,450 plus support costs for the implementation of stage I of the HPMP. The total amount requested for the 2011-2014 period of US \$1,468,459 including support costs, is above that in the business plan of US \$882,534 since stage I of the HPMP proposes the complete phase-out of HCFC-141b used as a foam blowing agent in addition to the phase-out of 7.63 ODP tonnes of HCFC-141b and HCFC-22 used in the servicing sector.

#### Draft Agreement

33. A draft Agreement between the Government of Dominican Republic and the Executive Committee for HCFC phase-out is contained in Annex I of the present document. The draft Agreement includes a clause on actions to be taken in case any enterprise to be converted to non-HCFC technology included in the HPMP and that would be found to be ineligible under the guidelines of the Multilateral Fund.

### **RECOMMENDATION**

34. In the light of the Secretariat's comments above, in particular paragraphs 27 and 28, the Executive Committee may wish to consider:

- (a) Approving, in principle, stage I of the HCFC phase-out management plan (HPMP) for Dominican Republic for the period 2011 to 2015 to meet the 10 per cent reduction in HCFC consumption, at the amount of US \$1,468,459, consisting of US \$1,313,450 plus agency support costs of US \$98,509 for UNDP, and US \$50,000 plus agency support costs of US \$6,500 for UNEP;
- (b) Noting that stage I of the HPMP also covers US \$332,775 plus agency support costs of US \$24,958 for UNDP for a project to phase out 3.74 ODP tonnes of HCFC-141b used in the manufacture of polyurethane rigid insulation foam for commercial refrigerators at FARCO approved at the 61<sup>st</sup> meeting;
- (c) Noting that the Government of Dominican Republic had agreed to establish as its starting point for sustained aggregate reduction in HCFC consumption the baseline of 51.20 ODP tonnes, calculated using actual consumption of 48.49 ODP tonnes and 53.92 ODP tonnes reported for 2009 and 2010, respectively, under Article 7 of the Montreal Protocol plus the 2007-2009 average amount of HCFC-141b contained in imported preblended polyols of 19.51 ODP tonnes resulting in 70.71 ODP tonnes;
- (d) Noting the deduction of 3.74 ODP tonnes of HCFCs from the starting point for sustained aggregate reduction in HCFC consumption for one project approved at the 61<sup>st</sup> meeting, and deducting a further 23.40 ODP tonnes of HCFCs for the implementation of stage I of the HPMP;
- (e) Approving the draft Agreement between the Government of Dominican Republic and the Executive Committee for the reduction in consumption of HCFCs, as contained in Annex I to the present document; and
- (f) Approving the first tranche of stage I of the HPMP for Dominican Republic, and the corresponding implementation plan, at the amount of US \$759,250, consisting of US \$680,000 plus agency support costs of US \$51,000 for UNDP, and US \$25,000 plus agency support costs of US \$3,250 for UNEP.

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## Annex I

### **DRAFT AGREEMENT BETWEEN THE GOVERNMENT OF DOMINICAN REPUBLIC 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 Dominican Republic (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 46.08 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.
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;
  - (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; and

- (e) That, for all submissions from the 68<sup>th</sup> meeting onwards, confirmation has been received from the Government that an enforceable national system of licensing and quotas for HCFC imports and, where applicable, production and exports is in place and that the system is capable of ensuring the Country's compliance with the Montreal Protocol HCFC phase-out schedule for the duration of this Agreement.

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. UNDP has agreed to be the lead implementing agency (the “Lead IA”) and UNEP 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	50.41
HCFC-141b	C	I	0.60
HCFC-123	C	I	0.19
HCFC-141b in imported polyol			19.51
Total			70.71

### APPENDIX 2-A: THE TARGETS, AND FUNDING

		2010*	2011	2012	2013	2014	2015	Total
1.1	Montreal Protocol reduction schedule of Annex C, Group I substances (ODP tonnes)				51.20	51.20	46.08	n/a
1.2	Maximum allowable total consumption of Annex C, Group I substances (ODP tonnes)				51.20	51.20	46.08	n/a
2.1	Lead IA (UNDP) agreed funding (US \$)	332,775	680,000		463,450		170,000	1,646,225
2.2	Support costs for Lead IA (US \$)	24,958	51,000		34,759		12,750	123,467
2.3	Cooperating IA (UNEP) agreed funding (US \$)		25,000		25,000			50,000
2.4	Support costs for Cooperating IA (US \$)		3,250		3,250			6,500
3.1	Total agreed funding (US \$)	332,775	705,000		488,450		170,000	1,696,225
3.2	Total support cost (US \$)	24,958	54,250		38,009		12,750	129,967
3.3	Total agreed costs (US \$)	357,733	759,250		526,459		182,750	1,826,192
4.1.1	Total phase-out of HCFC-22 agreed to be achieved under this Agreement (ODP tonnes)							7.03
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)							43.38
4.2.1	Total phase-out of HCFC-141b agreed to be achieved under this Agreement (ODP tonnes)							0.60
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-123 agreed to be achieved under this Agreement (ODP tonnes)							0.00
4.3.2	Phase-out of HCFC-123 to be achieved in previously approved projects (ODP tonnes)							0.00
4.3.3	Remaining eligible consumption for HCFC-123 (ODP tonnes)							0.19
4.4.1	Total phase-out of HCFC-141b contained in imported pre-blended polyols agreed to be achieved under this Agreement (ODP tonnes)							15.77
4.4.2	Phase-out of HCFC-141b contained in imported pre-blended polyols to be achieved in previously approved projects (ODP tonnes)							3.74
4.4.3	Remaining eligible consumption for HCFC-141b contained in imported pre-blended polyols (ODP tonnes)							0.00

(\* ) Approved at the 61<sup>st</sup> meeting.



### **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 Ministry of Environment and Natural Resources is responsible for the overall coordination of activities to be undertaken in the HCFC Phase-Out Management Plan. The National Ozone Program (PRONAOZ) under this Ministry acts as National Ozone Unit and represents the enforcement institution. PRONAOZ is responsible for carrying out national policies and legislations regarding the control of ozone depleting substances and monitors at managerial level the consumption of all ozone depleting substances (ODS). PRONAOZ controls, through the licensing system, the ODS consumption (import and export) and end-user level. The lead and cooperating agencies will be responsible for implementing and monitoring the activities under their responsibility. The Government has offered continuity of activities and endorsement for the projects through the institutional support over the next years.

2. Close monitoring of all activities and coordination between stakeholders is an essential element of the HPMP and key to reach compliance. There will be regular coordination meetings with industry stakeholders, HCFC importers, relevant Government stakeholders, various industrial associations, and all sectors involved, in order to enact the necessary agreements and measures to carry out the investment and non-investment activities in time and in a coordinated manner. In the manufacturing sector the implementation process and the achievement of the phase-out will be monitored through site visits at enterprise level. Yearly monitoring will be carried out by PRONAOZ through the ODS licensing and quota system. Verification site visits will be undertaken by independent international experts.

#### **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. 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.

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 6-B: ROLE OF THE COOPERATING IMPLEMENTING AGENCY**

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

- (a) Providing policy development assistance 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**

1. In accordance with paragraph 11 of the Agreement, the amount of funding provided may be reduced by US \$180 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.

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