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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Eighty-sixth Meeting
Montreal, 2-6 November 2020
Postponed to 8-12 March 2021¹

PROJECT PROPOSAL: PANAMA

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

Phase-out

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

¹ Due to coronavirus disease (COVID-19)

Pre-session documents of the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol are without prejudice to any decision that the Executive Committee might take following issuance of the document.

PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS

PANAMA

(I) PROJECT TITLE	AGENCY
HCFC phase-out plan (stage III)	UNDP

(II) LATEST ARTICLE 7 DATA (Annex C Group I)	Year: 2019	14.36 (ODP tonnes)
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(III) LATEST COUNTRY PROGRAMME SECTORAL DATA (ODP tonnes)								Year: 2019	
Chemical	Aerosol	Foam	Fire-fighting	Refrigeration		Solvent	Process agent	Lab use	Total sector consumption
				Manufacturing	Servicing				
HCFC-22					14.36				14.36
HCFC-141b in imported pre-blended polyols		7.78							7.78

(IV) CONSUMPTION DATA (ODP tonnes)			
2009 - 2010 baseline:		24.78	Starting point for sustained aggregate reductions: 27.28
CONSUMPTION ELIGIBLE FOR FUNDING (ODP tonnes)			
Already approved:		13.89	Remaining: 13.39

(V) BUSINESS PLAN		2020	2021	2022	After 2022	Total
UNDP	ODS phase-out (ODP tonnes)	3.22	0.00	0.00	4.83	8.05
	Funding (US \$)	281,000	0	0	422,000	703,000

(VI) PROJECT DATA			2020	2021 2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Montreal Protocol consumption limits			16.11	16.11	16.11	16.11	8.05	8.05	8.05	8.05	8.05	0.00	n/a
Maximum allowable consumption (ODP tonnes)			16.11	16.11	16.11	16.11	8.05	8.05	8.05	0.62	0.62	0.00	n/a
Project costs requested in principle (US \$)	UNDP	Project costs	206,800	0	497,612	0	0	458,838	0	0	129,250	0	1,292,500
		Support costs	14,476	0	34,833	0	0	32,119	0	0	9,047	0	90,475
Total funds requested in principle (US \$)			221,276	0	532,445	0	0	490,957	0	0	138,297	0	1,382,975

(VII) Request for approval of funding for the first tranche (2020)		
Agency	Funds requested (US \$)	Support costs (US \$)
UNDP	206,800	14,476

Secretariat's recommendation:	Individual consideration
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PROJECT DESCRIPTION

Background

1. On behalf of the Government of Panama, UNDP as the designated implementing agency has submitted a request for stage III of the HCFC phase-out management plan (HPMP), at the amount of US \$1,292,500, plus agency support costs of US \$90,475, as originally submitted.² The implementation of stage III of the HPMP will phase out the remaining consumption of HCFCs by 2030, including a reduction of 97.5 per cent of the HCFC consumption baseline by 2028.

2. The first tranche of stage III of the HPMP being requested at this meeting amounts to US \$387,750, plus agency support costs of US \$27,143 for UNDP, as originally submitted.

Status of implementation of stage II of the HPMP

3. Stage I of the HPMP was approved at the 65th meeting³ to meet the 10 per cent reduction from the baseline by 2015, at a total cost of US \$335,545, plus agency support costs, to phase out 4.78 ODP tonnes of HCFCs used in the refrigeration and air-conditioning (RAC) servicing sectors. Stage I was completed by 31 December 2016.

4. Stage II of the HPMP for Panama was approved at the 76th meeting⁴ to meet the 35 per cent reduction from the baseline by 2020, at a total cost of US \$723,654, plus agency support costs to phase out 7.38 ODP tonnes of HCFCs used in the RAC servicing sector and the foam manufacturing sector. The third and final tranche of stage II of the HPMP was approved under the intersessional approval process (IAP) for the 85th meeting in May 2020; stage II will be completed by December 2021.

HCFC consumption

5. The Government of Panama reported a consumption of 14.36 ODP tonnes of HCFC in 2019, which is 42 per cent below the HCFC baseline for compliance. The 2015-2019 HCFC consumption is shown in Table 1.

Table 1. HCFC consumption in Panama (2015-2019 Article 7 data)

HCFC	2015	2016	2017	2018	2019	Baseline
Metric tonnes (mt)						
HCFC-22	318.13	332.04	300.27	297.10	261.16	404.32
HCFC-123	1.46	4.5	0.53	0.00	0.00	2.37
HCFC-124	0.071	0.00	0.00	0.00	0.00	0.45
HCFC-141b	0.00	0.00	0.00	0.00	0.00	20.87
HCFC-142b	0.043	0.00	0.00	0.00	0.00	2.72
Total (mt)	319.70	336.54	300.80	297.10	261.16	430.66
HCFC-141b in imported pre-blended polyols*	79.38	41.35	60.62	52.81	70.73	22.72**
ODP tonnes						
HCFC-22	17.50	18.26	16.51	16.34	14.36	22.24
HCFC-123	0.03	0.09	0.01	0.00	0.00	0.05
HCFC-124	0.00	0.00	0.00	0.00	0.00	0.01
HCFC-141b	0.00	0.00	0.00	0.00	0.00	2.30
HCFC-142b	0.00	0.00	0.00	0.00	0.00	0.18
Total (ODP tonnes)	17.53	18.35	16.53	16.34	14.36	24.77

²As per the letter of 10 July 2020 from the Ministry of Health of Panama to UNDP.

³ UNEP/OzL.Pro/ExCom/65/45 and Annex XXX of document UNEP/OzL.Pro/ExCom/65/60

⁴ UNEP/OzL.Pro/ExCom/76/43 and Annex XI of document UNEP/OzL.Pro/ExCom/76/66

HCFC	2015	2016	2017	2018	2019	Baseline
HCFC-141b in imported pre-blended polyols*	8.73	4.55	6.67	5.81	7.78	2.50**

* Country programme (CP) data.

**Average consumption between 2007 and 2009.

6. Since 2016, HCFC consumption has continued to decrease steadily due to the control measures imposed on ODS imports, including the quota system, the ban on imports of HCFC-141b in pure form as of 1 January 2014, the ban on new HCFC-22-based air-conditioning (AC) installations as of 1 January 2016, and the ban on the use of HCFC-22 for flushing refrigeration systems as of 1 January 2019. In addition, the implementation of the phase-out activities conducted under the HPMP, including the technical assistance and training provided to the refrigeration serving sector, have contributed to the sustained reductions in HCFC consumption.

7. The decrease in imports of HCFC-141b contained in pre-blended polyols in 2016 was due to the use of stocks that were available at the largest non-eligible consumer enterprise, Huurre Panama, and the increase in 2019 was due to imports for stockpiling by enterprises before the ban entered into force on 1 January 2020.

8. Import quotas for HCFC-123 and R-409A (a refrigerant blend containing HCFC-22, HCFC-124 and HCFC-142b used in some RAC equipment) were requested and allocated during 2018-2019 but there were no imports of these substances for that period. However, these substances cannot be considered to have been phased out yet, as they can be imported in future years, subject to needs.

CP implementation report

9. The Government of Panama reported HCFC sector consumption data under the 2019 CP implementation report that is consistent with the data reported under Article 7 of the Montreal Protocol.

Status of progress and disbursement

Legal framework

10. The Government of Panama established a ban on the use of HCFC-22 as a cleaning agent in RAC systems and in the production of extruded polystyrene (XPS) foam, both in existing and new facilities, as of 1 January 2019, and a ban on imports of pre-blended polyols containing HCFC-141b as of 1 January 2020. The Colon Free Trade Zone (FTZ) has also been subjected to the ban on imports of HCFC-141b, pure or contained in pre-blended polyols.

11. A total of 145 customs officers, including 39 women, received training on the identification and control of HCFCs, the operation of refrigerant identifiers, trade control measures and the prevention of illicit trade within the framework of the Montreal Protocol, and on matters related to the implementation of the Montreal Protocol. Sections of the ISO standard 5149:2014 on safety and environmental aspects applicable to refrigeration systems and heat pumps have been approved (i.e., part I on definitions, classification and selection criteria, and part III on installation place).

12. The Government of Panama ratified the Kigali Amendment on 28 September 2018.

Free Trade Zone (FTZ)

13. In line with the decision approving the last tranche of stage II of the HPMP under the IAP for the 85th meeting,⁵ UNDP reported that the Government of Panama has continued its efforts to strengthen the ODS control mechanisms of the FTZ and confirmed that as of 1 January 2020, imports of HCFC-141b contained in pre-blended polyols by the FTZ is zero.

14. A first working session was conducted with the FTZ authorities (after the approval of the last tranche at the IAP), where it was agreed that the FTZ authorities will share import/export data and relevant information upon request by the National Ozone Unit (NOU), including identification of the enterprises that import/export ODS and polyols in the FTZ; and that two training webinars with FTZ users will be held to discuss the legal framework and HPMP activities. The NOU and FTZ authorities will continue to work together to identify opportunities to improve the enforcement and control of their import/export regulations.

15. In the short term, a voluntary registry will be established by the NOU for FTZ users that commercialize refrigerants, pre-blended polyurethane (PU) polyols, fire extinguishers and RAC equipment.

PU foam manufacturing sector

16. Of the five PU foam sector enterprises included in stage II to phase out 1.19 ODP tonnes of HCFC-141b, three signed contracts for the phase-out of 0.70 ODP tonnes and are at different stages of testing HFO-based formulations. The enterprises were initially expecting to complete the testing in late 2020, but are now anticipating delays due to the current situation of the COVID-19 pandemic. These enterprises are still using the remaining inventories of polyols formulated with HCFC-141b after the 1 January 2020 ban on imports. The remaining two enterprises (with a total consumption of 0.48 ODP tonnes) withdrew from stage II of the HPMP; one converted to cyclopentane polyol systems with its own resources, while the other is no longer producing foam. UNDP is returning the funds associated with these two enterprises to the 86th meeting.⁶

Refrigeration servicing sector

17. Activities implemented in stage II include: training of 24 instructors from the National Institute for Professional Training for Human Development (INADEH), the Technological University of Panama (UTP) and the Ministry of Education (MEDUCA) on the safe use of R-600a and R-290; training of more than 200 technicians on good practices in refrigerant management and the safe use of flammable refrigerants; expansion of INADEH's programme for mechanics in domestic RAC to 925 hours, including a mandatory module on good practices in refrigerant management (40 hours); the adoption of an updated curriculum by 10 training centres during 2020; an update of the technician database; the distribution of 15 basic toolkits⁷ for courses in good practices in the handling of refrigerants; and procurement of 70 additional sets of equipment (i.e., R-290-based split AC units and R-600a-based refrigerators for demonstration) and tools to be distributed during the second half of 2020.

⁵ UNDP and the Government of Panama were requested to include in the submission of the first tranche request of stage III of the HPMP an update on the status of the Government's efforts to obtain data from the systems house in the FTZ and information on HCFCs imported to and exported from the FTZ.

⁶ Through the IAP for the 85th meeting, UNDP was requested to return at the 86th meeting US \$43,153, plus agency support cost of US \$3,021, from the project PAN/PHA/76/INV/44, corresponding to the unused balance of funds associated with Disur and Refratermic.

⁷ Including recovery units and cylinders, manifolds, capillary tube cutters, silver welding, containers, lock rings, digital vacuum, digital thermometers, R-290 and R-600a flaring kits, and cooling ratchets.

18. The NOU also held meetings and two induction workshops for all involved institutions⁸ on the establishment of a certification scheme for RAC technicians based on labour competencies, and promoted the use of CO₂ and other low-GWP refrigerants as alternatives to HCFCs through nine meetings with supermarkets and hotels, three workshops for 75 technicians and end-users, and through the production of technical brochures on alternative refrigerants.

Level of fund disbursement

19. As of October 2020, of the total funds of US \$680,501 approved,⁹ US \$288,245 had been disbursed and an additional US \$188,192 had been committed for ongoing activities. The balance of US \$392,256, including US \$72,754 approved for the third and final tranche, will be disbursed in 2020 and 2021.

Stage III of the HPMP

Remaining consumption eligible for funding

20. After deducting 4.78 ODP tonnes of HCFCs associated with stage I of the HPMP, and 9.11 ODP tonnes of HCFCs associated with stage II, the remaining consumption eligible for funding amounts to 13.39 ODP tonnes, including 13.15 ODP tonnes of HCFC-22, 0.05 ODP tonnes of HCFC-123, 0.01 ODP tonnes of HCFC-124, and 0.18 ODP tonnes of HCFC-142b.

Sector distribution of HCFCs

21. There are approximately 1,000 technicians and 350 workshops servicing installed window AC units, split systems, chillers, AC split units, central AC units, commercial refrigerators, freezers, meat processing industry equipment, fishery equipment and others, as shown in Table 2.

Table 2. Sectoral distribution of HCFC-22 in Panama in 2019

Sector/Applications	Equipment (units)	Installed HCFC (mt)	Equipment served each year (%)	Estimated demand (mt)
Commercial refrigeration	8,378	167.55	20	33.51
Industrial refrigeration	874	45.45	20	9.09
Residential AC	84,308	139.56	15	20.93
Commercial AC	50,798	528.30	20	105.66
Industrial AC	424	19.10	20	3.82
RAC public sector (Canal authority, FTZ, airports, Government institutions, universities)	104,370	519.35	20	103.89
Total	249,152	1,419.31		276.90

22. The estimated demand of 276.9 mt of HCFC-22 in the refrigeration servicing sector was the result of a bottom-up approach based on RAC equipment in operation, import data and interviews with technical experts. This value is marginally higher than the actual consumption of 261.16 mt reported under Article 7 of the Protocol based on imports.

⁸ Secretariat of the Certification System for Labour Competencies of INADEH, the Technical Board of Engineering and Architecture, the Panamanian Society of Engineers and Architects (SPIA), the College of Electrical, Mechanical and Industrial Engineers, MEDUCA, Ministry of Environment, Ministry of Health, Ministry of Labour, trainers from INADEH and other education institutes, unions and technicians.

⁹ This equals the US \$723,654 approved minus US \$43,153 to be returned to the 86th meeting from the unused balance of funds associated with PU foam enterprises that withdrew from stage II.

Phase-out strategy in stage III of the HPMP

23. Stage III of the HPMP aims to meet the 67.5 per cent reduction from its HCFC baseline by 2025, 97.5 per cent reduction by 2028, and 100 per cent by 2030, and will build upon the experience gained during the implementation of stages I and II. HCFCs would not be imported as of 1 January 2030, except for the allowance for a servicing tail between 2030-2040 where required, and consistent with the provisions of the Montreal Protocol. It will focus on strengthening the national capacity to reduce ODS emissions in the RAC sector by improving the capacity of technicians in good servicing practices, strengthening the refrigerant recovery and recycling (R&R) centres in Panama City, strengthening the technical training centres in the area of good management of HCFCs, HFCs, and low-GWP alternatives, promoting a national certification strategy in labour competency standards, and promoting the adoption of low-GWP alternative technologies.

Proposed activities in stage III of the HPMP

24. Stage III proposes the following activities:

- (a) *Strengthening of policies and legal frameworks to control HCFC consumption:* review of the current legal framework and preparation of additional legal instruments to support HCFC phase-out, including regulatory measures to ban the import of new and second-hand HCFC-based equipment, ban on disposable HCFC containers, extension of the licensing system to HFC-based and natural refrigerants, and implementation of the Uniform Central American Custom Code (US \$95,000);
- (b) *Application of good refrigeration practices and procedures in the RAC services sector:* training update for 40 trainers and 450 technicians on good servicing practices and alternative refrigerants; distribution of 30 kits for handling hydrocarbon (HC) refrigerants;¹⁰ development of a unique registry of RAC workshops and technicians in the country; establishment of voluntary agreements with RAC end-users for the environmentally sound use of refrigerants; design and printing of materials on good environmental practices for all refrigerant users in the country (US \$190,000);
- (c) *Establishment of a RAC technician certification system:* design of the structure of the certification process; development and approval of the national standard on labour competencies and the methodology to evaluate technicians against the standard for certification; design of a system to train local experts to evaluate the certification tests; certification of the labour competency standard's first evaluators and the first 200 technicians; an assessment of the certification process for RAC technicians; and awareness campaign on the certification process (US \$180,000);
- (d) *Strengthening of formal education technical institutes:* purchase of three tool kits and basic equipment for the laboratories of the technical education centres;¹¹ inclusion in the academic curriculum of the technical education centres the additional material on low-GWP alternatives for the RAC technician training (US \$190,000);
- (e) *Strengthening of the refrigerant R&R network:* establishment of a sustainable infrastructure for refrigerant R&R; provision of equipment¹² to three R&R centres; provision of training to 320 technicians on refrigerant R&R; design and printing of materials on R&R; visits to two countries in the region to study their R&R experiences (US \$192,000);

¹⁰ Charging station/vacuum pump, welding kit, hoses kit, leak detector, manometer and precision balance for HC.

¹¹ RAC teaching modules, recovery units, recycling units, vacuum pumps, scales, cylinders, manifolds, refrigerant identifiers, piercing valves, hoses for different refrigerants, kit for HCs.

¹² One recycling unit, three recovery units and vacuum pumps, cylinders, scale, manifolds, refrigerant identifiers.

- (f) *Technical assistance for end-users in the adoption of zero-ODP, low-GWP technologies:* implementation of three pilot projects to demonstrate the use of RAC equipment based on non-ODS, low-GWP refrigerants; training of 160 end-users and technicians in eight workshops on low-GWP alternatives; one international seminar on low-GWP technologies; and design and printing of materials on the costs and advantages of selecting low-GWP technologies in the RAC sector (US \$207,000); and
- (g) *Public awareness activities:* developing and conducting 16 national awareness-raising campaigns aimed at RAC end-users and decision-makers in Government institutions to promote the phase-out of HCFCs and the adoption of low-GWP alternative technologies; (US \$121,000).

Project implementation and monitoring

25. The system established under stage II of the HPMP will continue into stage III, where the NOU, with the assistance of UNDP, monitors activities, reports progress, and works with stakeholders to phase out HCFCs. The cost of those activities amounts to US \$117,500 for stage III, including national consultants (US \$91,500); preparation of periodic reports (US \$18,000); and meetings with stakeholders to plan and monitor activities (US \$8,000).

Gender policy implementation

26. Women actively participated in the development and implementation of the two previous stages of the HPMP in Panama, principally in the NOU. Over 50 per cent of Panama's NOU staff designing, implementing and supervising all HPMP projects have been women. In line with decision 84/92(d)¹³ the following initiatives will be undertaken: collecting data to produce gender-disaggregated indicators, present reports with disaggregated figures (e.g. number of women in each activity), and establish an *ex post* baseline of women technicians in the RAC sector for comparison with the number of women involved in NOU RAC activities; introducing gender-sensitive language in communications; incorporating gender aspects in the recruitment of new consultants and staff of NOU (i.e., encouraging female candidates to apply, adding a gender-related element in each job description and in terms of reference (TOR); and including gender aspects in training sessions).

Total cost of stage III of the HPMP

27. The total cost of stage III of the HPMP has been estimated at US \$1,292,500, as originally submitted, for achieving a 97.5 per cent reduction from the country's HCFC baseline consumption by 2028 and 100 per cent reduction in 2030.

Activities planned for the first tranche of stage III

28. The first funding tranche of stage III of the HPMP, at the total amount of US \$387,750, will be implemented between January 2021 and December 2023 and will include the following activities:

- (a) *Strengthening of policies and legal frameworks to control HCFC consumption:* contracting of a national consultant to assess the current HCFC licensing and quota system, review the current legal framework for HCFC phase-out, and determine additional regulatory measures required; discussions with stakeholders involved in the implementation of the regulatory framework for HCFC phase-out to receive feedback on the enforcement of the legal system and identify areas of improvement; design and printing of materials to

¹³ Decision 84/92(d) requested bilateral and implementing agencies to apply the operational policy on gender mainstreaming throughout the project cycle.

disseminate the current regulations among technicians, refrigerant and equipment distributors, and end-users (US \$24,500);

- (b) *Application of good refrigeration practices and procedures in the RAC servicing sector:* one train-the-trainers update workshop and three workshops on good refrigeration practices and low-GWP alternatives for 20 trainers and 90 RAC technicians; design, printing and distribution of technical material on low-GWP alternatives (US \$40,250);
- (c) *Establishment of the RAC technician certification system:* preparation of the labour competency standard that will serve as the basis for the certification of RAC technicians; meetings with all the institutions that will be involved in the certification scheme to determine roles and responsibilities; determination of the evaluation instruments; preparation of material to promote certification among RAC technicians (US \$59,500);
- (d) *Strengthening of formal education technical institutes:* recruitment of a local consultant to establish criteria to select technical institutes outside of Panama City to be assisted under stage III; selection of the centres; visits to the centres to identify equipment needs; and preparation of the TOR to start equipment procurement (US \$15,000);
- (e) *Strengthening of the refrigerant R&R network:* selection of one beneficiary to operate a R&R centre; procurement of all equipment and tools and installation of the centre; first two workshops on refrigerant R&R addressed to 80 RAC technicians; design and printing of materials to promote R&R among RAC technicians; one visit to a neighbouring country to study the its R&R system (US \$99,000);
- (f) *Technical assistance for end users in the adoption of zero-ODP, low-GWP technologies:* contracting of an international expert and national consultant to assist in the implementation of the project, two workshops to 40 end-users on the use of non-ODS, low-GWP technologies; one international seminar on low-GWP technologies; design and printing of materials on the costs and advantages of selecting low-GWP technologies in the RAC sector (US \$88,000);
- (g) *Public awareness activities:* recruitment of a national consultant to start the first two awareness-raising campaigns on low-GWP alternatives to HCFCs; design, printing and distribution of awareness materials for the campaigns (US \$32,000); and
- (h) Monitoring and implementation through the NOU, including meetings with stakeholders, and the preparation of two annual progress reports (US \$29,500).

SECRETARIAT'S COMMENTS AND RECOMMENDATION

COMMENTS

29. The Secretariat reviewed stage III of the HPMP in light of stage II, the policies and guidelines of the Multilateral Fund, including the criteria for funding HCFC phase-out in the consumption sector for stage II of HPMPs (decision 74/50), and the 2020-2022 business plan of the Multilateral Fund.

Overarching strategy

30. The Government of Panama proposes to meet the 100 per cent reduction of its HCFC baseline consumption by 2030, with an interim reduction step of 97.5 per cent in 2028, and consumption of only 2.5 per cent of the baseline in 2029, on the understanding that the country's consumption between 2030 and 2040 (i.e., the servicing tail) may exceed zero in any year so long as the sum of its calculated levels of

consumption over the ten-year period from 1 January 2030 to 1 January 2040, divided by 10, does not exceed 2.5 per cent of Panama's baseline, and provided that such consumption is restricted to the servicing of RAC equipment existing on 1 January 2030, as provided by the Montreal Protocol.¹⁴ The Government further commits to continue establishing strict import/export control methods to monitor the level of import and the uses of HCFC between 2030 and 2040 to ensure that they are limited to the conditions established by the Montreal Protocol.

HCFC phase-out and duration of stage III

31. The Secretariat queried the rationale for selecting annual HCFC consumption targets in stage III equal to the Montreal Protocol control measures between 2020 and 2024, noting that the import quotas for the last two years have been lower than the Protocol targets and have not been fully utilized, and that the import quota for 2020 (14.22 ODP tonnes) is 11.7 per cent below the compliance level (16.11 ODP tonnes). UNDP explained that given the uncertainty caused by the economic problems generated by the COVID-19 pandemic and the future needs of HCFC-22 for servicing the RAC equipment still in operation, the Government considered it appropriate to maintain for the coming years the targets set out by the Montreal Protocol. The strategy proposes a reduction of 97.5 per cent from the HCFC consumption baseline in 2028, two years before the total phase-out in 2030, which reflects the Government's commitment to reduce HCFC consumption.

32. In explaining the reason for a total phase-out strategy for stage III, rather than a stage only addressing the 67.5 per cent reduction in 2025, UNDP indicated that the strategy was the result of extensive consultations by the Government with stakeholders. It has been designed as a long-term plan where several activities such as the R&R system and the certification scheme will take several years to become fully operational. The Government also considered it important to send a clear message to RAC stakeholders on the transition away from HCFCs.

33. The Secretariat noted that stage III of the HPMP has been designed through extensive consultations by the Government with relevant stakeholders; implementation of the strategy includes the establishment of a certification scheme for technicians which will enhanced the servicing practices of RAC equipment. The Government also committed to a reduction of HCFC consumption in 2028 at a lower level than that allowed under the Protocol.

Technical and cost-related issues

Refrigeration servicing sector

34. Noting that during stage II some progress was achieved in the preparation of a technician certification scheme, the Secretariat asked about the details of the additional assistance needed and the final outcomes of scheme included in stage III. UNDP explained that the development of a labour-competency-based certification scheme was at a very early stage. During stage III the NOU will continue consultations with relevant institutions¹⁵ to determine the scheme's economic model, including how the certification scheme would be maintained over time (e.g., institutions in charge; source of funding for recurring costs (evaluators, venues, updates of exams), and whether technicians would pay for certification). The main outcomes will be the issuance of the standard on the environmental management of refrigerants to be used as the reference for technician certification, the establishment of the associated regulation, the definition of roles and responsibilities for each institution involved, the creation and training of a minimum of eight evaluators, and the certification of a minimum of 50 technicians on the labour

¹⁴ Article 5, paragraph 8 ter (e)(i) of the Montreal Protocol. Other applications where HCFCs can be used include the servicing of fire suppression and fire protection equipment existing on 1 January 2030; solvent applications in rocket engine manufacturing; and topical medical aerosol applications for the specialized treatment of burns.

¹⁵ Including the SPIA, the Panamanian Association of Air Conditioning and Refrigeration, INADEH, MEDUCA, UTP, the Directorate General of Technical and Industrial Standards (DGNTI) and Instituto Técnico Superior del Este.

competency standard on the environmental management of refrigerants. Noting that this is the last stage of the HPMP, UNDP agreed to increase the number to at least 20 per cent of the technician population (i.e., 200 technicians). This number has already been updated in the description of the project in paragraph 24(c) of the present document.

35. Noting that previous R&R experiences in the country had limited success and no R&R activities were included in stage II, the Secretariat requested more information on the proposed measures to successfully implement these activities under stage III, including any regulatory measures supporting R&R and the economic model for self-sustaining R&R operation. UNDP indicated that due to a more restrictive HCFC-22 import quota in recent years and the subsequent increase in the substance's price (currently at US \$4.70/kg), there is growing interest in refrigerant recovery on the part of stakeholders. The first R&R centre will be located at INADEH in Panama City, where recovery equipment and training in its use can be made available to technicians. During the design of stage III, it was decided that there will not be infrastructure for refrigerant reclamation, but only for recycling. The R&R infrastructure will be equipped in a staggered manner: the first tranche will only focus on the establishment of the first centre, and the results and lessons learned will be used in the establishment of the other two centres in future tranches.

36. The Secretariat highlighted the importance of enforcing refrigerant emission control measures¹⁶ to support the phase-out strategy in the servicing sector. UNDP reported that as part of the project to strengthen the legal framework, the Government is seeking to regulate the technical standard (DGNTI-COPANIT ISO-5149-4:2014) that corresponds to refrigeration systems, safety and environmental requirements – Part 4 – operation, maintenance, repair and recovery. The Government expects to have this regulation by 1 January 2024.

37. Regarding the three pilot projects to demonstrate the use of non-ODS, low-GWP technologies, the Secretariat noted that funding for this activity would only be requested for the second tranche in 2023. As the pilots relate to the replacement of RAC equipment for end-users, information on the enabling conditions (including market and regulatory framework) to ensure a sustained replacement of HCFC technology by low-GWP technology would need to be described, in line with decision 84/84. In response, UNDP explained that even though it was difficult to estimate at present when the selected technologies would become commercially available, mature and more energy-efficient than current HCFC-based technologies, the duration of stage III made it possible to gradually ensure the adoption of enabling conditions for these technologies. Specifically, during stage III, the Government will provide training and tools to technicians to handle flammable refrigerants; establish norms for the safe installation and servicing of equipment using these technologies, and implement awareness campaigns on the benefits of introducing low-GWP alternatives for refrigerant and equipment importers, end-users and contractors.

38. The three pilot projects would be focused on the commercial RAC sector (e.g., supermarkets, hotels, food refrigeration, hospitals and shopping centers). The specific RAC systems and end-users will be selected during the first years of stage III. The US \$45,000 reserved for the three pilot projects will be distributed depending on the type of project and the technology to be promoted, covering *inter alia* part of the design cost, technical assistance to the beneficiary company on the new technology, and part of the RAC equipment using alternatives to HCFCs; with the beneficiary having to contribute with co-financing. UNDP was also advised that by the time of submission of the second tranche, detailed information would need to be provided on the planned pilot conversions and their compliance with the requirements of decision 84/84 in order to be considered for funding.

¹⁶ E.g. penalties (for end-users and/or technicians) for intentional venting of HCFC into the atmosphere during installation, operation, servicing and decommissioning of RAC equipment; mandatory leak checking for larger equipment; or mandatory recovery of HCFC from containers and equipment at end-of-life.

Plan of action for the first tranche and implementation amid COVID-19

39. Regarding the continuity of activities in the context of the COVID-19 pandemic, the Secretariat enquired about the changes foreseen in implementation by the Government of Panama and UNDP. UNDP confirmed that while the procurement of equipment and tools could continue, not all meetings and training could be conducted virtually. However, meeting and travel restrictions are expected to be loosened by the time stage III begins (early 2021). International consultants can start their work remotely, which will give them additional time before travel and in-person activities take place. UNDP will use adaptive management to adjust for the new situation in case the pandemic continues for several more years, as is standard practice in all of UNDP's operations globally.

40. The Secretariat also noted that at the time of submission of stage III there remained a large balance of funds still to be disbursed from stage II. As both stages were being implemented mostly in the refrigeration servicing sector, a more rational tranche distribution for stage III would be required to ensure that priority was given to the finalization of activities under stage II (with completion date of 31 December 2021). Upon discussion, it was agreed that the first tranche of stage III would be reduced to give priority to the finalization of stage II, and that the second tranche of stage III in 2023 would be approved subject to confirmation that stage II had been effectively completed and the project completion report (PCR) had been submitted in accordance with decision 81/29.¹⁷

41. Given that a reduction of 97.5 per cent of the HCFC consumption baseline will need to be achieved by 1 January 2028, most of the substantive activities need to be implemented by 2027. On this basis, in order to allow for last payments, it was agreed to have the last tranche in 2029 rather than in 2030, as usually done. The revised tranche distribution of stage III is presented in Table 4.

Table 4. Original and revised tranche distribution for stage III of the HPMP for Panama

Funding (US \$)	2020	2021-2022	2023	2024	2025	2026	2027	2028	2029	2030
As submitted	387,750	0	387,750	0	387,750	0	0	129,250	0	0
Revised	206,800	0	497,612	0	0	458,838	0	0	129,250	0

42. Following the revision of the tranche distribution, the component of technical assistance for end-users in the adoption of zero-ODP, low-GWP technologies was removed from the plan of action and funding for the first tranche of stage III, while the activities of other components remained with funding adjusted as follows: strengthening of policies and legal frameworks to control HCFC consumption (US \$16,500); application of good refrigeration practices and procedures in the RAC servicing sector (US \$36,700); establishment of the RAC technician certification system (US \$39,550); strengthening of formal education technical institutes (US \$15,000); strengthening of the refrigerant R&R network (US \$45,550); public awareness activities (US \$24,000); and monitoring and implementation (US \$29,500).

Total project cost

43. The total cost for stage III of the HPMP amounts to US \$1,292,500, plus agency support costs, which is comprised of US \$1,175,000, plus support costs for the servicing sector calculated at US \$4.80/metric kg using the remaining eligible HCFC consumption of 13.39 ODP tonnes (244.81 mt) of HCFC¹⁸ based on decision 74/50(c)(xiii), and US \$117,500 for costs associated with project management

¹⁷ Funding requests for the second or subsequent tranches of stage II or for subsequent stages of the HPMP submitted for consideration by the Committee would not be considered if there was an outstanding PCR from the previously completed stage that had not been submitted to the Secretariat at least six weeks in advance of the meeting to which the tranche request was being submitted.

¹⁸ Including 13.15 ODP tonnes of HCFC-22, 0.05 ODP tonnes of HCFC-123, 0.01 ODP tonnes of HCFC-124, and 0.18 ODP tonnes of HCFC-142b.

and monitoring, for the total phase-out of HCFCs in Panama in 2030. However, stage III will phase out 14.36 ODP tonnes of HCFCs, representing the consumption in 2019.

Free Trade Zone

44. The Secretariat noted that during stage II, the Government of Panama made significant efforts to extend HCFC control measures to its FTZ, including the extension of the ban on imports of HCFC-141b pure and contained in pre-blended polyols to the FTZ starting 1 January 2020, and that information on HCFC imports and exports in the FTZ would be made available to the NOU upon request (UNDP reported that the FTZ authorities had already shared the 2019 import/export information with the NOU). This achievement is consistent with the data reporting guidelines under Article 7 of the Protocol,¹⁹ which request countries with FTZs inside their territories to make a special effort to include in their data reporting the production, import and export figures for such zones.

45. The Secretariat notes that the steps made will help ensure that import and export of HCFCs through the FTZ do not lead to discrepancies in Article 7 data reporting, including uncertainty with regard to the origin of the material.

Impact on the climate

46. The proposed activities in the servicing sector, which include better containment of refrigerants through training and provision of equipment, will reduce the amount of HCFC-22 used for RAC servicing. Each kilogram of HCFC-22 not emitted due to better refrigeration practices results in savings of approximately 1.8 CO₂-equivalent tonnes. Although a calculation of the impact on the climate was not included in the HPMP, the activities planned by Panama, including its efforts to promote low-GWP alternatives, as well as refrigerant R&R, indicate that the implementation of the HPMP will reduce the emission of refrigerants into the atmosphere, resulting in climate benefits.

2020-2022 draft business plan of the Multilateral Fund

47. UNDP is requesting US \$1,292,500, plus agency support costs, for the implementation of stage III of the HPMP for Panama. The total requested value of US \$221,276, including agency support costs for the period from 2020 to 2022, is US \$58,724 below the amount in the business plan.

Draft Agreement

48. A draft Agreement between the Government of Panama and the Executive Committee for the phase-out of HCFCs in stage III of the HPMP is contained in Annex I to the present document.

RECOMMENDATION

49. The Executive Committee may wish to consider:

- (a) Approving, in principle, stage III of the HCFC phase-out management plan (HPMP) for Panama for the period from 2020 to 2030 for the complete phase-out of HCFC consumption in the amount of US \$1,292,500, plus agency support costs of US \$90,475 for UNDP, on the understanding that no more funding would be provided from the Multilateral Fund for the phase out of HCFCs;
- (b) Noting the commitment of the Government of Panama:
 - (i) To reduce HCFC consumption by 97.5 per cent of the country's baseline by 2028

¹⁹ UNEP/OzL.Pro.3/11, Annex XI.

and completely phase out HCFCs by 1 January 2030, after which date HCFCs would not be imported, except for the allowance for a servicing tail between 2030 and 2040 where required, and consistent with the provisions of the Montreal Protocol;

- (ii) To establish regulatory measures to control intended emissions of refrigerant during installation, servicing and decommissioning by 1 January 2024;
- (c) Further noting that the second tranche of stage III of the HPMP for Panama would only be considered upon completion of stage II of the HPMP and submission of the project completion report;
- (d) Deducting 13.39 ODP tonnes of HCFCs from the remaining HCFC consumption eligible for funding;
- (e) Approving the draft Agreement between the Government of Panama and the Executive Committee for the reduction in consumption of HCFCs, in accordance with stage III of the HPMP, contained in Annex I to the present document; and
- (f) Approving the first tranche of stage III of the HPMP for Panama, and the corresponding tranche implementation plan, in the amount of US \$206,800, plus agency support costs of US \$14,476 for UNDP.

Annex I

DRAFT AGREEMENT BETWEEN THE GOVERNMENT OF PANAMA AND THE EXECUTIVE COMMITTEE OF THE MULTILATERAL FUND FOR THE REDUCTION IN CONSUMPTION OF HYDROCHLOROFLUOROCARBONS IN ACCORDANCE WITH STAGE III OF THE HCFC PHASE-OUT MANAGEMENT PLAN

Purpose

1. This Agreement represents the understanding of the Government of Panama (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 zero ODP tonnes by 1 January 2030 in compliance with Montreal Protocol schedule.
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, 4.4.3, 4.5.3 and 4.6.3 (remaining consumption eligible for funding).
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 stage II of the HCFC phase-out management plan (HPMP) approved (“the Plan”). 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.

Conditions for funding release

5. The Executive Committee will only provide the Funding in accordance with the Funding Approval Schedule when 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 has 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 there are no due country programme implementation reports 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 for all relevant years, unless the Executive Committee decided that such verification would not be required;
 - (c) That the Country had submitted a Tranche Implementation Report in the form of Appendix 4-A (“Format of Tranche 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 a Tranche 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.

Monitoring

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 Tranche Implementation Plans in accordance with their roles and responsibilities set out in the same appendix.

Flexibility in the reallocation of funds

7. The Executive Committee agrees that the Country may have the flexibility to reallocate part or all of the approved 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 a Tranche Implementation Plan as foreseen in sub-paragraph 5(d) above, or as a revision to an existing Tranche 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;
 - (iv) Provision of funding for activities not included in the current endorsed Tranche Implementation Plan, or removal of an activity in the Tranche Implementation Plan, with a cost greater than 30 per cent of the total cost of the last approved tranche; and
 - (v) Changes in alternative technologies, on the understanding that any submission for such a request would identify the associated incremental costs, the potential impact to the climate, and any differences in ODP tonnes to be phased out if applicable, as well as confirm that the Country agrees that potential savings related to the change of technology would decrease the overall funding level under this Agreement accordingly;
- (b) Reallocations not categorized as major changes may be incorporated in the approved Tranche Implementation Plan, under implementation at the time, and reported to the Executive Committee in the subsequent Tranche Implementation Report; and
- (c) Any remaining funds held by the bilateral or implementing agencies or the Country under the Plan will be returned to the Multilateral Fund upon completion of the last tranche foreseen under this Agreement.

Considerations for the refrigeration servicing sector

8. Specific attention will be paid to the execution of the activities in the refrigeration servicing sector included in the Plan, 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 relevant bilateral and/or implementing agencies would take into consideration relevant decisions on the refrigeration servicing sector during the implementation of the Plan.

Bilateral and implementing agencies

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. United Nations Development Programme (UNDP) has agreed to be the lead implementing agency (the “Lead IA”) in respect of the Country’s activities under this Agreement. The Country agrees to evaluations, which might be carried out under the monitoring and evaluation work programmes of the Multilateral Fund or under the evaluation programme of the Lead IA taking part in this Agreement.

10. The Lead IA will be responsible for ensuring coordinated planning, implementation and reporting of all activities under this Agreement, including but not limited to independent verification as per sub-paragraph 5(b). The role of the Lead IA is contained in Appendix 6-A. The Executive Committee agrees, in principle, to provide the Lead IA with the fees set out in row 2.2 of Appendix 2-A.

Non-compliance with the Agreement

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 decisions are taken, the specific case of non-compliance with this Agreement will not be an impediment for the provision of funding 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 decisions 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, and the Lead IA to facilitate implementation of this Agreement. In particular, it will provide the Lead IA with access to the information necessary to verify compliance with this Agreement.

Date of completion

14. The completion of the Plan 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 at that time there still be activities that are outstanding, and which were foreseen in the last Tranche Implementation Plan and its subsequent revisions as per sub-paragraph 5(d) and paragraph 7, the completion of the Plan 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 of the Plan unless otherwise specified by the Executive Committee.

Validity

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.

16. This Agreement may be modified or terminated only by mutual written agreement of the Country and the Executive Committee of the Multilateral Fund.

APPENDICES

APPENDIX 1-A: THE SUBSTANCES

Substance	Annex	Group	Starting point for aggregate reductions in consumption (ODP tonnes)
HCFC-22	C	I	22.24
HCFC-123	C	I	0.05
HCFC-124	C	I	0.01
HCFC-141b	C	I	2.30
HCFC-142b	C	I	0.18
Sub-total			24.78
HCFC-141b contained in imported pre-blended polyols	C	I	2.50
Total			27.28

APPENDIX 2-A: THE TARGETS, AND FUNDING

Row	Particulars	2020	2021-2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
1.1	Montreal Protocol reduction schedule of Annex C, Group I substances (ODP tonnes)	16.11	16.11	16.11	16.11	8.05	8.05	8.05	8.05	8.05	0.00	n/a
1.2	Maximum allowable total consumption of Annex C, Group I substances (ODP tonnes)	16.11	16.11	16.11	16.11	8.05	8.05	8.05	0.62	0.62	0.00	n/a
2.1	Lead IA (UNDP) agreed funding (US \$)	206,800	0	497,612	0	0	458,838	0	0	129,250	0	1,292,500
2.2	Support costs for Lead IA (US \$)	14,476	0	34,833	0	0	32,119	0	0	9,047	0	90,475
3.1	Total agreed funding (US \$)	206,800	0	497,612	0	0	458,838	0	0	129,250	0	1,292,500
3.2	Total support costs (US \$)	14,476	0	34,833	0	0	32,119	0	0	9,047	0	90,475
3.3	Total agreed costs (US \$)	221,276	0	532,445	0	0	490,957	0	0	138,297	0	1,382,975
4.1.1	Total phase-out of HCFC-22 agreed to be achieved under this Agreement (ODP tonnes)											13.15
4.1.2	Phase-out of HCFC-22 to be achieved in the previous stage (ODP tonnes)											9.09
4.1.3	Remaining eligible consumption for HCFC-22 (ODP tonnes)											0.00
4.2.1	Total phase-out of HCFC-123 agreed to be achieved under this Agreement (ODP tonnes)											0.05
4.2.2	Phase-out of HCFC-123 to be achieved in previously approved projects (ODP tonnes)											0.00
4.2.3	Remaining eligible consumption for HCFC-123 (ODP tonnes)											0.00
4.3.1	Total phase-out of HCFC-124 agreed to be achieved under this Agreement (ODP tonnes)											0.01
4.3.2	Phase-out of HCFC-124 to be achieved in previously approved projects (ODP tonnes)											0.00
4.3.3	Remaining eligible consumption for HCFC-124 (ODP tonnes)											0.00
4.4.1	Total phase-out of HCFC-141b agreed to be achieved under this Agreement (ODP tonnes)											0.00
4.4.2	Phase-out of HCFC-141b to be achieved in previously approved projects (ODP tonnes)											2.30
4.4.3	Remaining eligible consumption for HCFC-141b (ODP tonnes)											0.00

Row	Particulars	2020	2021- 2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
4.5.1	Total phase-out of HCFC-142b agreed to be achieved under this Agreement (ODP tonnes)											0.18
4.5.2	Phase-out of HCFC-142b to be achieved in previously approved projects (ODP tonnes)											0.00
4.5.3	Remaining eligible consumption for HCFC-142b (ODP tonnes)											0.00
4.6.1	Total phase-out of HCFC-141b contained in imported pre-blended polyols agreed to be achieved under this Agreement (ODP tonnes)											0.00
4.6.2	Phase-out of HCFC-141b contained in imported pre-blended polyols to be achieved in the previous stage (ODP tonnes)											2.50
4.6.3	Remaining eligible consumption for HCFC-141b contained in imported pre-blended polyols (ODP tonnes)											0.00

Note: Date of completion of stage II as per stage II Agreement: 31 December 2021.

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 TRANCHE IMPLEMENTATION REPORTS AND PLANS

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

- (a) A narrative report, with data provided by tranche, describing the progress achieved since 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 the amount of ODS phased 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 Tranche 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;
- (b) An independent verification report of the Plan results and the consumption of the Substances, 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 during the period covered by the requested tranche, highlighting implementation milestones, the time of completion and 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 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 Tranche Implementation Reports and Plans, submitted through an online database; and

- (e) An Executive Summary of about five paragraphs, summarizing the information of the above sub-paragraphs 1(a) to 1(d).
2. In the event that in a particular year two stages of the HPMP are being implemented in parallel, the following considerations should be taken in preparing the Tranche Implementation Reports and Plans:
- (a) The Tranche Implementation Reports and Plans referred to as part of this Agreement, will exclusively refer to activities and funds covered by this Agreement; and
 - (b) If the stages under implementation have different HCFC consumption targets under Appendix 2-A of each Agreement in a particular year, the lower HCFC consumption target will be used as reference for compliance with these Agreements and will be the basis for the independent verification.

APPENDIX 5-A: MONITORING INSTITUTIONS AND ROLES

1. The higher monitoring function will be discharged by the Ministry of Health through its General Direction of Health and the Sub-direction of Environmental Health, which supervise the National Ozone Unit.
2. Additionally, the operational monitoring activities will be carried out within the Plan implementation, through the monitoring and implementation component, and will include the implementation of all the projects within the Plan; the regular monitoring of the project implementation and results; the production of periodic reports on project results in order to facilitate corrective actions; the production of timely project progress reports to the Executive Committee; and the regular monitoring of market developments and trends at the national and international levels.

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 Tranche Implementation Reports and Plans as per Appendix 4-A;
 - (c) Providing independent verification to the Executive Committee that the Targets have been met and associated tranche activities have been completed as indicated in the Tranche 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 Tranche Implementation Plans consistent with sub-paragraphs 1(c) and 1(d) of Appendix 4-A;
 - (e) Fulfilling the reporting requirements for the Tranche Implementation Reports and Plans and the overall plan as specified in Appendix 4-A for submission to the Executive Committee;
 - (f) Ensuring that appropriate independent technical experts carry out the technical reviews;
 - (g) Carrying out required supervision missions;
 - (h) Ensuring the presence of an operating mechanism to allow effective, transparent

implementation of the Tranche Implementation Plan and accurate data reporting;

- (i) In case of reductions in funding for failure to comply in accordance with paragraph 11 of the Agreement, to determine, in consultation with the Country, the allocation of the reductions to the different budget items and to the funding of the Lead IA;
- (j) Ensuring that disbursements made to the Country are based on the use of the indicators;
- (k) Providing assistance with policy, management and technical support when required, and
- (l) Timely releasing funds to the Country/participating enterprises for completing the activities related to the project.

2. After consultation with the Country and taking into account any views expressed, the Lead IA will select and mandate an independent entity to carry out the verification of the HPMP results and the consumption of the Substances mentioned in Appendix 1-A, as per sub-paragraph 5(b) of the Agreement and sub-paragraph 1(b) of Appendix 4-A.

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

1. In accordance with paragraph 11 of the Agreement, the amount of funding provided may be reduced by US \$193.05 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, on the understanding that the maximum funding reduction would not exceed the funding level of the tranche being requested. Additional measures might be considered in cases where non-compliance extends for two consecutive years.

2. In the event that the penalty needs to be applied for a year in which there are two Agreements in force (two stages of the HPMP being implemented in parallel) with different penalty levels, the application of the penalty will be determined on a case-by-case basis taking into consideration the specific sectors that lead to the non-compliance. If it is not possible to determine a sector, or both stages are addressing the same sector, the penalty level to be applied would be the largest.