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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Eighty-fourth Meeting
Montreal, 16–20 December 2019

PROJECT PROPOSAL: COSTA RICA

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

Phase-out

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

PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS

Costa Rica

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

(II) LATEST ARTICLE 7 DATA (Annex C Group I)	Year: 2018	8.82 (ODP tonnes)
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(III) LATEST COUNTRY PROGRAMME SECTORAL DATA (ODP tonnes)								Year: 2018	
Chemical	Aerosol	Foam	Fire fighting	Refrigeration		Solvent	Process agent	Lab use	Total sector consumption
				Manufacturing	Servicing				
HCFC-124									
HCFC-141b					1.20				1.20
HCFC-141b in Imported Pre-blended Polyol		0.40							0.40
HCFC-142b					0.03				0.03
HCFC-22					7.64				7.64

(IV) CONSUMPTION DATA (ODP tonnes)			
2009 - 2010 baseline:	14.10	Starting point for sustained aggregate reductions:	32.21
CONSUMPTION ELIGIBLE FOR FUNDING (ODP tonnes)			
Already approved:	18.93	Remaining:	13.28

(V) BUSINESS PLAN		2019	2020	2021	Total
UNDP	ODS phase-out (ODP tonnes)	1.83	0.57	2.18	4.58
	Funding (US \$)	222,560	69,550	264,290	556,400

(VI) PROJECT DATA		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Montreal Protocol consumption limits		12.69	9.17	9.17	9.17	9.17	9.17	4.58	4.58	4.58	4.58	4.58	0.35	n/a
Maximum allowable consumption (ODP tonnes)		12.69	9.17	9.17	9.17	9.17	9.17	4.58	4.58	4.58	4.58	4.58	0.35	n/a
Projects costs requested in principle (US\$)	UNDP	187,777	0	385,750	0	0	295,200	0	0	126,450	0	0	104,000	1,099,177
	Support costs	13,144	0	27,003	0	0	20,664	0	0	8,852	0	0	7,280	76,942
Total project costs requested in principle (US\$)		187,777	0	385,750	0	0	295,200	0	0	126,450	0	0	104,000	1,099,177
Total support costs requested in principle (US\$)		13,144	0	27,003	0	0	20,664	0	0	8,852	0	0	7,280	76,942
Total funds requested in principle		200,921	0	412,753	0	0	315,864	0	0	135,302	0	0	111,280	1,176,119

(VII) Request for funding for the first tranche (2019)		
Agency	Funds requested (US \$)	Support costs (US \$)
UNDP	187,777	13,144
Total	187,777	13,144
Funding request:	Approval of funding for the first tranche (2019) as indicated above	

Secretariat's recommendation:	Individual consideration
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PROJECT DESCRIPTION

Background

1. On behalf of the Government of Costa Rica, UNDP as the designated implementing agency has submitted a request for stage II of the HCFC phase-out management plan (HPMP) at the amount of US \$1,108,348, plus agency support costs of US \$77,584, as originally submitted.¹ The implementation of stage II of the HPMP will phase out 8.77 ODP tonnes of HCFCs to meet the target of 97.5 per cent reduction in HCFC baseline consumption by 2030. In addition, stage II will also phase out 0.69 ODP tonnes of HCFC-141b contained in imported pre-blended polyols, which is all the remaining use of this substance in the refrigeration foam manufacturing sector.

2. The first tranche for stage II of the HPMP being requested at this meeting amounts to US \$196,948, plus agency support costs of US \$13,786 for UNDP, as originally submitted.

Status of implementation of stage I of the HPMP

3. Stage I of the HPMP for Costa Rica was approved at the 64th meeting² to meet the 35 per cent reduction from the baseline by 2020, resulting in the phase-out of 4.93 ODP tonnes of HCFCs and 14.00 ODP tonnes of HCFC-141b contained in imported pre-blended polyols, at a total cost of US \$1,153,523, excluding agency support costs.

HCFC consumption

4. The Government of Costa Rica reported a consumption of 8.82 ODP tonnes of HCFCs for 2018, which is 37 per cent below the HCFC baseline for compliance. The 2014-2018 HCFC consumption is shown in Table 1.

Table 1. HCFC consumption in Costa Rica (2014-2018 Article 7 data)

HCFC	2014	2015	2016	2017	2018	Baseline
Metric tonnes						
HCFC-22	178.16	155.69	155.40	152.56	138.20	181.88
HCFC-123	23.15	19.93	20.30	15.22	10.88	0.36
HCFC-124	2.43	2.10	1.50	0.48	0.48	3.95
HCFC-141b	2.91	2.45	0.00	0.00	(0.64)	32.59
HCFC-142b	0.91	0.67	0.45	0.14	0.14	6.17
HCFC-225ca	0.90	0.00	0.00	0.00	0.00	-
HCFC-225cb	0.90	0.00	0.00	0.00	0.00	-
Sub-total (mt)	209.36	180.84	177.65	168.40	149.06	224.94
HCFC-141b in imported pre-blended polyols*	11.14	10.00	11.50	4.49	3.66	164.64*
Total (mt)	220.50	190.84	189.15	172.88	152.72	389.58
ODP tonnes						
HCFC-22	9.80	8.56	8.55	8.39	7.60	10.00
HCFC-123	2.55	2.19	2.23	1.67	1.20	0.01
HCFC-124	0.16	0.14	0.10	0.03	0.03	0.09
HCFC-141b	0.06	0.05	-	-	(0.01)	3.58
HCFC-142b	0.02	0.01	0.01	0.00	0.00	0.40
HCFC-225ca	0.02	-	-	-	-	-
HCFC-225cb	0.03	-	-	-	-	-
Sub-total (ODP tonnes)	12.64	10.96	10.89	10.10	8.82	14.10
HCFC-141b in imported pre-blended polyols*	1.23	1.10	1.27	0.49	0.40	18.11*

¹As per the letter of 28 August 2019 from the Ministry of Environment and Energy of Costa Rica to UNDP.

²UNEP/OzL.Pro/ExCom/64/31.

HCFC	2014	2015	2016	2017	2018	Baseline
Total (ODP tonnes)	13.86	12.06	12.15	10.59	9.22	32.21

* Based on CP data, starting point included in Agreement based on average 2007-2009 consumption.

5. HCFC consumption has been decreasing due to the implementation of the activities under the HPMP. Implementation of the activities in the refrigeration servicing sector, which has focussed on the training of refrigeration technicians, together with the introduction of non-HCFC-22-based refrigeration and air-conditioning (RAC), have contributed to the reductions in HCFC-22 consumption.

6. The significant reduction in consumption of HCFC-141b in imported pre-blended polyols was due to the conversion of the largest user of one-blended polyols in the country; the replacement of local manufactured discontinuous panel by imported products; the closure of some commercial refrigeration manufacturing enterprises; and the introduction of fully formulated polyols based on HFC-365m/HFC-227ea. The remaining consumption of 0.40 ODP tonnes is associated with very small foam users and their phase-out is planned to be addressed in stage II.

Country programme (CP) implementation report

7. The Government of Costa Rica reported HCFC sector consumption data under the 2018 CP implementation report which is consistent with the data reported under Article 7 of the Montreal Protocol.

ODS policy and regulatory framework

8. Since January 2013, the Government of Costa Rica has established and is enforcing a licensing and quota system for the imports and exports of ODS and ODS-containing equipment, including HCFCs. The National Ozone Unit (NOU) under the Ministry of Environment and Energy establishes the annual import quotas for HCFCs based on the maximum allowable consumption under the Montreal Protocol, and the Ministry of Foreign Trade issues the licenses according to the total quota set by the NOU. An online system (TICA) was established to facilitate monitoring of ODS imports and other refrigerants (including HFCs) and cross-checking with quotas issued. During stage I, a total of 342 customs officers were trained in the identification of ODS, and the monitoring and controlling of imports and exports of ODS.

9. The Government plans to ban imports of HCFC-based equipment from 1 January 2020. The national regulations on the minimum energy performance standard for public procurement of RAC equipment was approved.

10. Costa Rica ratified the Kigali Amendment of the Montreal Protocol on 23 May 2018.

Phase-out of HCFC polyurethane foam in the manufacture of domestic refrigerators

11. In July 2013, Atlas Industrial, SA, a manufacturer of domestic refrigeration equipment with consumption of 14.00 ODP tonnes of HCFC-141b contained in imported pre-blended polyols, converted to the use of cyclopentane as a blowing agent.

Phase-out in the refrigeration servicing sector

12. Activities conducted in the servicing sector, resulting in the phase-out of 4.93 ODP tonnes of HCFCs and included training of 1,672 RAC technicians on good refrigeration practices, and certification of 1,327 technicians; equipment and tools were provided to training institutions and technicians.

13. The demonstration project to replace an HCFC-22 refrigeration system with R-717/R-744 (NH₃/CO₂ cascade) system in a cold storage warehouse of Premezclas Industriales para Panadería S.A.,³

³ Approved at the 76th meeting and funded outside stage I of the HPMP.

was implemented closely with HPMP activities. The replacement technology showed improved energy efficiency, fewer maintenance interventions, less leakage of refrigerants and lower cost of refrigerants. The project phased out 0.64 mt (0.035 ODP tonnes) of HCFC-22. The results of the demonstration project were disseminated to various stakeholders. While the technology has not been replicated in other end-users due to the investment required, the project raised awareness on the technology in the country.

Status of disbursements

14. As of August 2019, of the total funds of US \$1,153,523 approved, (US \$593,523 for the foam conversion project and US \$560,000 for the activities in the servicing sector), all the funds for the foam project had been disbursed, and US \$428,220 had been disbursed for the servicing sector. The balance of US \$131,780, including US \$56,000 approved for the fifth tranche, will be disbursed between 2019 to 2022.

15. Stage I of the HPMP will be operationally completed by the end of 2021 and financially completed by 31 December 2022. A project completion report will be submitted to the first meeting in 2022, in line with decision 83/49(b).

Stage II of the HPMP

Remaining consumption eligible for funding

16. After deducting 4.97 ODP tonnes of HCFCs and 14.00 ODP tonnes of HCFC-141b contained in imported pre-blended polyols associated with stage I of the HPMP, the remaining consumption eligible for funding in stage II amounts to 9.12 ODP tonnes of HCFCs and 4.11 ODP tonnes of HCFC-141b contained in pre-blended polyols, with a servicing tail of 0.35 ODP tonnes of HCFC representing 2.5 per cent of the HCFC baseline, as shown in Table 2.

Table 2. Remaining consumption eligible for funding for stage II of the HPMP in Costa Rica (ODP tonnes)

HCFC	Starting point	Stage I		Stage II	
		Approved	Remaining	Requested	Remaining
HCFC-22	10.00	2.59*	7.42	7.07	0.35
HCFC-141b	3.58	2.38	1.20	1.20	0.00
HCFC-123	0.01	0.00	0.01	0.01	0.00
HCFC-124	0.09	0.00	0.09	0.09	0.00
HCFC-142b	0.40	0.00	0.40	0.40	0.00
Total HCFCs	14.08	4.97	9.12	8.77	0.35
HCFC-141b in imported pre-blended polyols	18.11	14.00	4.11	0.69**	0.00

(*) Includes 0.035 ODP tonnes associated with the demonstration project to replace an HCFC-22 refrigeration system with R-717/R-744 (NH₃/CO₂ cascade) system in a cold storage warehouse (decision 76/23(b)).

(**) Total consumption of HCFC-141b contained in pre-blended polyols currently remaining in the country.

Sector distribution of HCFCs

17. Currently, there is only one enterprise consuming 6.24 mt (0.69 ODP tonnes)⁴ HCFC-141b contained in imported pre-blended polyols.

18. Based on the survey conducted during the preparation of stage II, there are approximately 3,000 technicians and 600 workshops in the servicing sector, consuming HCFC-22, HCFC-141b used for flushing refrigeration circuits, and small amounts of HCFC-142b, HCFC-124 and HCFC-123 contained in refrigerant blends.

⁴ Last three-year average consumption

Phase-out strategy in stage II

19. Stage II of the HPMP for Costa Rica covers a 10-year plan following the Montreal Protocol phase-out schedule to reduce 67.5 per cent of baseline consumption by 2025 and 97.5 per cent by 2030, with a servicing tail of 2.5 per cent until 2040.

20. The Government is committed to achieving carbon neutrality by 2021, and intends to address HCFC phase-out and HFC phase-down simultaneously to optimize environmental benefit.

Proposed activities in stage II of the HPMP

21. The Government will strengthen the legal framework, continue to enforce the licensing and quota system to control the supply of HCFCs, and the capacity to reduce HCFC emissions in servicing and maintaining RAC equipment. It will also improve the capacity of refrigeration technicians in good servicing practices and promote certification of technicians to ensure safe transition to low global-warming potential (GWP) alternatives and energy-efficient technologies; and strengthen refrigerant recovery, reuse and reclamation. Stage II will also eliminate the use of HCFC-141b pre-blended polyols.

Activities in the PU foam sector

22. Stage II includes a project proposal to replace 6.24 mt (0.69 ODP tonnes) of HCFC-141b contained in imported pre-blended polyols used in the manufacture of PU foam in Refrigeracion Omega⁵ with HFO-1233zd. Refrigeracion Omega was established in 1985, is 100 per cent nationally owned and produces commercial refrigeration equipment including bottle racks, vertical and horizontal display cabinets and freezers, and cold rooms for the domestic market.

23. HFO-1233zd has been selected as the alternative technology for conversion. A fifty-percent reduced HFO formulation on a molar basis was proposed, that is equivalent to a 40 per cent reduction from the baseline mole fraction.

24. The incremental costs include test, trial and training of technical staff at a total cost of US \$33,000; and incremental operating costs (IOC) of US \$60,360 based on the prices of US \$2.20/kg for HCFC-141b and US \$17.00/kg for HFO-1233zd. The total incremental costs amount to US \$93,360, with a cost-effectiveness of US \$14.97/kg. The Government is requesting US \$68,348 from the Multilateral Fund, with a cost-effectiveness of US \$10.96/kg, which is the maximum eligible threshold for converting to low-GWP alternatives at small and medium enterprises.

Activities in the refrigeration servicing sector

25. Stage II proposes the following activities in the refrigeration servicing sector to phase out 8.77 ODP tonnes of HCFCs, at a cost of US \$870,000 (excluding cost for project management unit):

- (a) Strengthening of the legal and institutional framework to control HCFCs, including: reviewing and updating the legal framework to support compliance; strengthening the licensing and quota system for the control of ODS imports and exports; establishing an electronic connection between the NOU and customs to facilitate instant data sharing; and implementing the uniform Central American customs code for HCFCs; (US \$65,000)
- (b) Capacity building for the servicing sector (US \$717,000), including:
 - (i) Strengthening the refrigerant recovery, recycling and reclamation network, training 320 technicians in refrigerant recovery and recycling, providing tools and

⁵ The company was included in the overarching strategy of stage I of the HPMP.

equipment to three refrigerant recovery and recycling centres and one reclamation centre (US \$225,000);

- (ii) Promoting good servicing practices, conducting two training workshops for 40 trainers, 15 training workshops for 375 technicians and disseminating awareness-raising materials (US \$100,000);
 - (iii) Establishing a certification system for servicing technicians by developing a procedure for certification of servicing technicians in consultation with stakeholders; and conducting awareness campaigns to promote certification among technicians and end-users (US \$113,000);
 - (iv) Providing equipment to strengthen the educational technical institutes, and developing subjects, including good servicing practices, energy efficiency, safety, and refrigerant management, to be incorporated in the curriculum of the institutes (US \$100,000);
 - (v) Promoting low-GWP alternatives in supermarkets and hotels by conducting 10 training seminars for end-users, supermarkets and hotels; and developing and disseminating awareness-raising materials to support the transition to low-GWP technologies (US \$82,000); and
 - (vi) Phasing out the use of HCFC-141b in cleaning RAC equipment by conducting one workshop for trainers and five workshops for technicians in the use of alternatives, and providing tool kits (US \$97,000); and
- (c) Carrying out public awareness-raising activities on HCFC phase-out by conducting annual awareness campaign, developing and disseminating awareness-raising materials to Government institutions, decision makers, end-users and equipment distributors and retailers (US \$88,000).

Project implementation, monitoring and reporting (PMU)

26. A PMU will be established under the NOU to implement and monitor activities and report progress. It will carry out the following activities: detailed design of activities; liaising with stakeholders and coordinating implementation; identifying beneficiaries; conducting procurement of goods and services; monitoring activities, collecting data and implementing corrective measures as deemed necessary; monitoring technological advance on replacements of HCFCs and attending technical update meetings; preparing a quarterly report to the Ozone technical office of the Ministry of Environment; and preparing progress reports for UNDP and the Executive Committee.

27. The estimated cost of the PMU amounts to US \$170,000 with the following breakdown: a national consultant will be employed to assist the NOU in carrying out implementation, monitoring and reporting for the period of 2019-2030 (US \$132,000); coordination meetings with stakeholders (US \$25,000); and local travel, technical support and contingency (US \$13,000).

Total cost of stage II of the HPMP

28. The total cost of stage II of the HPMP for Costa Rica has been estimated at US \$1,108,348, plus agency support costs. The proposed activities will result in the phase-out of 9.46 ODP tonnes (i.e. 7.07 ODP tonnes of HCFC-22; 1.70 ODP tonnes of HCFC-141b, HCFC-142b, HCFC-123 and HCFC-124; and 0.69 ODP tonnes of HCFC-141b contained in imported pre-blended polyols) with an overall cost-effectiveness of US \$7.08/kg, as summarized in Table 3.

Table 3. Total cost of stage II of the HPMP for Costa Rica as submitted

Activity/HCFC to be phased out	Consumption		Cost (US \$)
	mt	ODP t	
Foam sector (HCFC-141b in imported polyol)			
Conversion of Refrigeracion Omega from HCFC-141b in imported pre-blended polyols to HFO-123zd	6.24	0.69	68,348
Refrigeration servicing (HCFC-22 HCFC-141b HCFC-142b HCFC-123 HCFC-124)			
Strengthening legal and institutional framework to control HCFCs			65,000
Strengthening the refrigerant recovery, recycling and reclamation network;			225,000
Promoting good servicing practices through training of technicians;			100,000
Establishing a certification system for servicing technicians;			113,000
Provision of equipment to strengthen the formal educational institutes; incorporating and maintaining good servicing practices into the curriculum of formal educational institutes	139.47	7.57	100,000
Promoting low-GWP alternatives in supermarkets and hotels through training and awareness-raising activities			82,000
Phasing out the use of HCFC-141b in cleaning RAC equipment through training and provision of equipment	10.91	1.20	97,000
Public awareness-raising activities on HCFC phase-out: conducting annual awareness campaign, developing and disseminating awareness-raising materials	0	0	88,000
Project implementation, monitoring and reporting	0	0	170,000
Total	156.62	9.46	1,108,348

Activities planned for the first tranche of stage II

29. The first funding tranche of stage II of the HPMP, at the total amount of US \$195,948, will be implemented from December 2019 to December 2021 and will include the following activities:

- (a) Conversion of Refrigeracion Omega to replace the consumption of 6.24 mt (0.69 ODP tonnes) of HCFC-141b contained in imported pre-blended polyols with HFO-1233zd (US \$68,348);
- (b) Strengthening policies and legal frameworks to control HCFC consumption: conducting a national consultation, coordinating with stakeholders, and designing and printing outreach materials (US \$9,000);
- (c) Capacity building for the servicing sector (US \$100,400), including:
 - (i) Strengthening the refrigerant recovery, recycling and reclamation network: preparing a training manual for workshops and conducting one refrigerant recovery, recycling and reclamation workshop (US \$9,500);
 - (ii) Promoting good servicing practices: employing one international consultant and one national consultant to conduct one train-the-trainers workshop for 20 trainers and one training session for 25 technicians (US \$29,000);
 - (iii) Establishing a certification system for servicing technicians: employing one international consultant and one national consultant, organizing coordination meetings and conducting one awareness campaign (US \$6,500);

- (iv) Employing one national consultant to visit educational centres and develop technical specifications for instruments, equipment and tools (US \$14,000);
 - (v) Promoting low-GWP alternatives in supermarkets and hotels: conducting a national consultation, visiting and selecting stakeholders, preparing the training manual and conducting one seminar on the transition to low-GWP technologies (US \$6,400);
 - (vi) Phasing out the use of HCFC-141b in cleaning RAC equipment: employing one international and one national consultant and conducting one training workshop for trainers in the use of alternatives in RAC equipment cleaning (US \$26,000); and
- (d) Public awareness-raising activities on HCFC phase-out: employing one national consultant to conduct one awareness-raising campaign on HCFC phase-out (US \$9,000).

PMU

30. The activities conducted by the PMU will include employing one consultant (US \$13,200), conducting meetings with stakeholders (US \$2,500), and preparing the annual implementation report and tranche implementation report and other contingencies (US \$2,500).

SECRETARIAT'S COMMENTS AND RECOMMENDATION

COMMENTS

Regulations to support HCFC phase-out

31. The Government of Costa Rica has established regulations to ban the import of HCFC-based equipment starting from 1 January 2020. The Government is also proposing a ban on the imports of HCFC-141b contained in pre-blended polyols place once the conversion of Refrigeracion Omega has been completed.

32. The Secretariat noted that stage II proposes to strengthen the legal framework, but does not include training for customs officers, and inquired how would the customs capacity be strengthened for HCFC import control and for the implementation of the bans to achieve the planned targets. UNDP reported that, due to the limited funding, the HPMP funds were allocated to other priority activities; if needed, customs training could be conducted using other funding resources.

Technical and cost-related issues

33. Upon an inquiry about the availability of HFO-1233zd-based systems, UNDP confirmed that supply is available from Synthesia Panama.

34. The Secretariat and UNDP had extensive discussion on calculation of the costs for trials and testing for this size of the enterprise, the new HFO formulation, the formulation used for the HFO-polyol systems, and the prices of the raw materials and blowing agents. As a result, it was agreed to adjust the project cost by US \$9,171. The agreed incremental cost of conversion of Refrigeracion Omega amounts to US \$59,177 with a cost effectiveness of US \$9.49/kg, consisting US \$19,000 for test, trial, training and technical assistance, and US \$40,177 for IOCs of one year.

Total project cost

35. Based on the revised cost of the foam conversion project, the total costs for stage II of the HPMP for Costa Rica amounts US \$1,099,177, to phase out the consumption of 156.39 mt (8.77 ODP tonnes) of HCFCs and the use of 6.24 mt (0.69 ODP tonnes) of HCFC-141b contained in pre-blended polyols, achieving a 97.5 per cent reduction from the baseline by 1 January 2030. The funding for the first tranche was adjusted to US \$187,777.

Impact on the climate

36. The conversion of the Refrigeracion Omega would avoid the emission into the atmosphere of some 4,510 tonnes of CO₂eq. per year, as shown in Table 4.

Table 4. Impact on the climate of the conversion project

Substance	GWP	Tonnes/year	CO ₂ -eq (tonnes/year)
Before conversion			
HCFC-141b	725	6.24	4,520
After conversion			
HFO-based formulations	3	3.48	10
Impact			4,510

37. The proposed activities in the servicing sector, which include better containment of refrigerants through training and the provision of equipment, will further reduce the amount of HCFC-22 used for refrigeration servicing. Each kilogramme of HCFC-22 not emitted due to better refrigeration practices results in a savings of approximately 1.82 CO₂-equivalent tonnes. Although a calculation of the impact on the climate was not included in the HPMP, the activities planned by Costa Rica, in particular its efforts to promote low-GWP alternatives, as well as refrigerant recovery and reuse, indicate that the implementation of the HPMP will reduce the emission of refrigerants into the atmosphere, resulting in climate benefits

Co-financing

38. UNDP reported that Refrigeracion Omega will co-finance the incremental capital cost of US \$33,000 for the conversion to the selected low-GWP alternative. For the activities related to the servicing sector, the Government and stakeholders will support the development of programmes and projects with their technical and logistical capabilities.

2018-2020 draft business plan of the Multilateral Fund

39. UNDP is requesting US \$1,099,177, plus agency support costs for the implementation of stage II of the HPMP for Costa Rica. The total value requested of US \$201,860 including support costs for the period 2018–2020, is US \$90,250 below the amount in the business plan.

Draft Agreement

40. A draft Agreement between the Government of Costa Rica and the Executive Committee for the phase-out of HCFCs in stage II of the HPMP is contained in Annex I to the present document.

Conclusion

41. Stage I of the HPMP for Costa Rica has been implemented and will be completed in 2021. The 2018 HCFC consumption of 8.87 ODP tonnes was 30 per cent lower than the limits established in the Agreement for that year and 37 per cent lower than the baseline. The Government proposes to achieve a 97.5 per cent reduction in HCFC consumption by 2030; it will continue to enforce the licensing and quota

system to control HCFC imports. The activities planned for the servicing sector will assist the country in reducing HCFCs used to service equipment. The conversion of Refrigeracion Omega, will phase out 6.24 mt (0.69 ODP tonnes) of HCFC-141b contained in pre-blended polyols, and a ban on this import has been planned for after the completion of the project. Certification of technicians will be implemented to sustain the training of technicians. Further strengthening of the regulatory framework and the promotion of low-GWP alternatives will assist the country in achieving sustainable HCFC phase-out.

RECOMMENDATION

42. The Executive Committee may wish:

- (a) To approve, in principle, stage II of the HCFC phase-out management plan (HPMP) for Costa Rica for the period from 2019 to 2030 to reduce HCFC consumption 97.5 per cent of the country's baseline, in the amount of US \$1,099,177, plus agency support costs of US \$76,942 for UNDP, on the understanding that no more funding would be provided from the Multilateral Fund for the phase-out of HCFCs;
- (b) To note the commitment of the Government of Costa Rica:
 - (i) To reduce HCFC consumption by 97.5 per cent of the country's baseline by 2030 following the Montreal Protocol phase-out schedule;
 - (ii) To issue a ban on imports of HCFC-141b contained in pre-blended polyols once the conversion at Refrigeracion Omega to phase out 0.69 ODP tonnes of HCFC-141b in pre-blended polyols is completed;
- (c) To deduct 9.46 ODP tonnes of HCFCs from the remaining HCFC consumption eligible for funding;
- (d) To approve the draft Agreement between the Government of Costa Rica and the Executive Committee for the reduction in consumption of HCFCs, in accordance with stage II of the HPMP, contained in Annex I to the present document; and
- (e) To approve the first tranche of stage II of the HPMP for Costa Rica, and the corresponding tranche implementation plan, in the amount of US \$187,777, plus agency support costs of US \$13,144 for UNDP.

Annex I

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

Purpose

1. This Agreement represents the understanding of the Government of Costa Rica (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 0.35 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;
- (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. 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 co-ordinated planning, implementation and reporting of all activities under this Agreement, including but not limited to independent verification as per sub-paragraph 5(b). The 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 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	10.00
HCFC-141b	C	I	3.58
HCFC-123	C	I	0.01
HCFC-124	C	I	0.09
HCFC-142b	C	I	0.40
Sub-total			14.08
HCFC-141b contained in imported pre-blended polyols	C	I	18.11
Total	C	I	32.19

APPENDIX 2-A: THE TARGETS, AND FUNDING

Row	Particulars	2019	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)	12.69	9.17	9.17	9.17	9.17	9.17	4.58	4.58	4.58	4.58	4.58	0.35	n/a
1.2	Maximum allowable total consumption of Annex C, Group I substances (ODP tonnes)	12.69	9.17	9.17	9.17	9.17	9.17	4.58	4.58	4.58	4.58	4.58	0.35	n/a
2.1	Lead IA (UNDP) agreed funding (US \$)	187,777	0	385,750	0	0	295,200	0	0	126,450	0	0	104,000	1,099,177

Row	Particulars	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
2.2	Support costs for Lead IA (US \$)	13,144	0	27,003	0	0	20,664	0	0	8,852	0	0	7,280	76,942
3.1	Total agreed funding (US \$)	187,777	0	385,750	0	0	295,200	0	0	126,450	0	0	104,000	1,099,177
3.2	Total support costs (US \$)	13,144	0	27,003	0	0	20,664	0	0	8,852	0	0	7,280	76,942
3.3	Total agreed costs (US \$)	200,921	0	412,753	0	0	315,864	0	0	135,302	0	0	111,280	1,176,119
4.1.1	Total phase-out of HCFC-22 agreed to be achieved under this Agreement (ODP tonnes)													7.07
4.1.2	Phase-out of HCFC-22 to be achieved in the previous stage (ODP tonnes)													2.59
4.1.3	Remaining eligible consumption for HCFC-22 (ODP tonnes)													0.35
4.2.1	Total phase-out of HCFC-141b agreed to be achieved under this Agreement (ODP tonnes)													1.20
4.2.2	Phase-out of HCFC-141b to be achieved in the previous stage (ODP tonnes)													2.38
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)													0.01
4.3.2	Phase-out of HCFC-123 to be achieved in the previous stage (ODP tonnes)													0.00
4.3.3	Remaining eligible consumption for HCFC-123 (ODP tonnes)													0.00
4.4.1	Total phase-out of HCFC-124 agreed to be achieved under this Agreement (ODP tonnes)													0.09
4.4.2	Phase-out of HCFC-124 to be achieved in the previous stage (ODP tonnes)													0.00
4.4.3	Remaining eligible consumption for HCFC-124 (ODP tonnes)													0.00
4.5.1	Total phase-out of HCFC-142b agreed to be achieved under this Agreement (ODP tonnes)													0.40
4.5.2	Phase-out of HCFC-142b to be achieved in the previous stage (ODP tonnes)													0.00
4.5.3	Remaining eligible consumption for HCFC-142b4 (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)													0.69
4.6.2	Phase-out of HCFC-141b contained in imported pre-blended polyols to be achieved in the previous stage (ODP tonnes)													14.00
4.6.3	Remaining eligible consumption for HCFC-141b contained in imported pre-blended polyols (ODP tonnes)													0.00

*Date of completion of stage I as per stage I Agreement: 31/12/2021

APPENDIX 3-A: FUNDING APPROVAL SCHEDULE

1. Funding for the future tranches will be considered for approval at the second 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 Ministry of Environment and Energy (MINAE) is the authority responsible for the implementation of national actions related to the preservation of the ozone layer under the Montreal Protocol. The Directorate of Environmental Quality Management (DIGECA) is the focal point of the Montreal Protocol designated by the Ministry of Foreign Affairs and Worship and MINAE. DIGECA coordinates with other public institutions and organizations and with the private sector for the implementation of activities under stage II of the HPMP. The roles and responsibilities of these institutions are described as follows:

- (a) Ministry of Finance and its customs offices are responsible for regulating international trade of controlled substances, monitoring imports and enforcing quotas together with other governing entities, and is in charge of public procurement;
- (b) Ministry of Health is responsible for issuing the corresponding regulations for the use of controlled substances;

- (c) Training and technical training institutions such as the National Institute of Learning (INA), the Ministry of Public Education (MEP), the Samuel Foundation, Public Universities will support strengthening of the technical capabilities of refrigeration and air-conditioning technicians and professionals;
- (d) DIGECA will collaborate with the industrial chambers and associations (Chamber of Industries, Association of Industrial Technicians, Federated College of Engineers and Architects, Chamber of Commerce, among others) when dealing with overarching issues for the interest of the industry during the process of complete elimination of HCFCs;
- (e) DIGECA will also work with other Government departments responsible for the National Quality System, including the technical standards body, for updating and adoption of the technical standards and regulations required for the implementation of the Montreal Protocol; and
- (f) The Lead IA will provide administrative, budgetary and financial monitoring necessary for the implementation of project activities.

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) In the event that the last funding tranche is requested one or more years prior to the last year for which a consumption target had been established, annual tranche implementation reports and, where applicable, verification reports on the current stage of the Plan should be submitted until all activities foreseen had been completed and HCFC consumption targets had been met;
 - (g) Ensuring that appropriate independent technical experts carry out the technical reviews;
 - (h) Carrying out required supervision missions;
 - (i) Ensuring the presence of an operating mechanism to allow effective, transparent implementation of the Tranche Implementation Plan and accurate data reporting;

- (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, the allocation of the reductions to the different budget items and to the funding of the Lead IA;
- (k) Ensuring that disbursements made to the Country are based on the use of the indicators;
- (l) Providing assistance with policy, management and technical support when required; and
- (m) 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 \$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, 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.