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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Ninety-first Meeting
Montreal, 5-9 December 2022
Item 7(a)(iii) of the provisional agenda¹

PROGRESS REPORT OF UNDP AS AT 31 DECEMBER 2021

Introduction

1. This document presents the progress report of UNDP as at 31 December 2021.²
2. The progress report of UNDP includes the status of implementation of projects, including 18 HFC-related projects that have been funded under the additional voluntary contributions by 17 non-Article 5 Parties to provide fast-start support for implementation of the Kigali Amendment.
3. The Secretariat reviewed the status of implementation of each ongoing project on a country-by-country basis, taking into account implementation delays that have occurred with respect to planned completion dates that had been reported in 2021, the potential impact of these delays on the phase-out of controlled substances and the rate of planned disbursements. The analysis contained in the present document is based on ODP tonnes for all controlled substances except for HFCs which are measured in CO₂-eq tonnes.³
4. This document consists of the following sections:
 - I. Projects approved for all controlled substances under the regular contributions to the Multilateral Fund. It presents a summary of progress in implementation of projects for 2021 and cumulative since 1991 addressing all controlled substances under the Montreal Protocol, including Annex F substances (HFCs). It also contains a review on the status of implementation of each ongoing⁴ project at the country level. It identifies projects with

¹ UNEP/OzL.Pro/ExCom/91/1

² The progress report is attached to the present document. The data has been included in the Consolidated Progress Report database that is available upon request.

³ In line with decision 84/12(a)(iv), the measurement for HFCs in CO₂-eq tonnes is included in the progress reports submitted to the 91st meeting.

⁴ Ongoing projects are all projects that were under implementation as at 31 December 2021. Key indicators of progress include percentage of funds disbursed and percentage of projects that have begun disbursing funds; funding expected

implementation delays and the potential impact on the phase-out of controlled substances, and projects with outstanding issues for consideration by the Executive Committee.

II. Projects approved for Annex F substances (HFCs) under the additional voluntary contributions for fast-start support for HFC phase-down.⁵

III. Recommendation.

I. Projects approved for all controlled substances under the regular contributions to the Multilateral Fund

I.1 Progress in implementation of projects for 2021 and cumulative since 1991

5. As of 31 December 2021, the Executive Committee had approved US \$1.004 billion in projects for UNDP, consisting of US \$883.61 million for the implementation of investment and non-investment projects and US \$121.27 million for agency support costs, as shown in table 1.

Table 1. Approved funding by sector for UNDP as at 31 December 2021

Sector	Funding (US \$)
Aerosol	26,054,837
Destruction	3,606,279
Foam	173,140,713
Halon	4,996,973
HFC phase-down plan	3,183,000
Fumigants	20,081,241
Phase-out plan	378,675,934
Process agent	1,286,923
Production	1,056,000
Refrigeration	139,598,314
Several	67,812,809
Solvents	63,699,997
Sterilant	417,628
Sub-total	883,610,648
Agency support costs	121,270,538
Total	1,004,881,186

6. In 2021, 66 new projects and activities were approved. This level of funding is expected to result in the phase-out of 69,419 ODP tonnes and 240,094 CO₂-eq tonnes of consumption of controlled substances. Annex I shows the status of project implementation per country in 2021.

7. Table 2 shows the status of project implementation including fund disbursement per project type as at 31 December 2021. Annex II presents analytical information per year since 1991.

to be disbursed by the end of the year as a percentage of the approved funding; the average length of projected delay in implementation; and information provided in the remarks column in the progress report database.

⁵ In line with decision 84/12(b), a detailed progress report providing an overview of the objectives, status of implementation, key findings and lessons learned, the amounts of HFC phased out where applicable, the level of funds approved and disbursed and potential challenges in completing the projects and activities, is presented in the consolidated progress report (UNEP/OzL.Pro/ExCom/91/12).

Table 2. Status of project implementation by type as at 31 December 2021

Type	Number of projects*			Funding (US \$)**			
	Approved	Completed	% completed	Approved	Disbursed	Balance	% disbursed
Country programme	22	22	100	1,628,797	1,628,797	0	100
Demonstration	42	41	98	21,719,011	21,599,917	119,094	99
Institutional strengthening (IS)	265	241	91	57,444,952	52,351,763	5,093,189	91
Investment	1,331	1,264	95	725,664,632	679,155,019	46,509,613	94
Project preparation	574	536	93	26,231,244	22,156,807	4,074,437	84
Technical assistance	329	309	94	49,331,523	42,396,630	6,934,893	86
Training	28	28	100	1,590,489	1,590,489	0	100
Total	2,591	2,441	94	883,610,648	820,879,422	62,731,226	93

*Excludes closed and transferred projects.

**Excludes agency support costs.

8. Implementation of projects and activities by UNDP for 2021 and cumulative since 1991 up to 31 December 2021 is summarized as follows:

- (a) **Phase-out:**⁶ In 2021, 923.6 ODP tonnes and 15,873 CO₂-eq tonnes⁷ of consumption of controlled substances were phased out and an additional 359.6 ODP tonnes of consumption of controlled substances were approved for phase-out. Since 1991, 68,821 ODP tonnes and 240,094 CO₂-eq tonnes of consumption of controlled substances had been phased out, of an expected total of 69,419 ODP tonnes and 240,094 CO₂-eq tonnes from projects approved (excluding cancelled and transferred projects);
- (b) **Disbursements/approvals:** In 2021, US \$24.66 million was disbursed and US \$22.52 million was planned for disbursement based on the 2020 progress report, representing a rate of disbursement of 109 per cent of that planned. Cumulatively, US \$820.88 million had been disbursed out of the total US \$883.61 million approved for disbursement (excluding agency support costs), representing a rate of disbursement of 93 per cent. In 2021, US \$24.65 million was approved for implementation;
- (c) **Cost-effectiveness (in ODP):**⁸ Since 1991, the average cost-effectiveness of investment projects approved leading to a permanent reduction in consumption was US \$11.15/kg. The average cost-effectiveness of investment projects per ODP tonne was US \$10.05/kg for completed projects and US \$66.17/kg for ongoing projects;⁹
- (d) **Number of projects completed:** In 2021, 62 projects were completed. Since 1991, 2,441 projects of the 2,591 projects approved (excluding closed or transferred projects) were completed, representing a completion rate of 94 per cent;
- (e) **Speed of delivery – investment projects:** Projects that were completed in 2021 were completed on average 37 months after their approval. Since 1991, the average time for completion of investment projects has been 34 months after their approval. First disbursements under these projects occurred, on average, 13 months after they had been approved;

⁶ Phase-out of ODS is expressed in ODP tonnes and of HFCs in CO₂-eq tonnes.

⁷ From the 11.1 mt phased out in 2021 for HFC-related projects.

⁸ Including 167.8 mt of HFC investment projects. Cost-effectiveness in CO₂-eq is not included due to the limited number of projects approved.

⁹ The higher value of the cost-effectiveness for ongoing projects is largely due to the lower ODP values of HCFCs but also due to the means of assigning phase-out by agencies.

- (f) **Speed of delivery – non-investment projects:** Projects that were completed in 2021 were completed on average 33 months after their approval. Since 1991, the average time for completion of non-investment projects has been 39 months after their approval. First disbursements under these projects occurred, on average, 13 months after they had been approved;
- (g) **Project preparation:** Of the 574 project preparation activities approved by the end of 2021, 536 have been completed, leaving 38 ongoing activities. In 2021, 14 projects preparation activity has been completed;
- (h) **Implementation delays:** A total of 150 projects were under implementation at the end of 2021, experiencing, on average, a delay of seven months. Twenty of these projects are classified as “projects with implementation delays”¹⁰ that are subject to the procedures of project cancellation (as demonstration projects, project preparation and IS are not subject to those procedures); and
- (i) **Multi-year agreements (MYAs):** In 2021, 47 MYAs for HCFC phase-out management plans (HPMPs) were under implementation. Since 1991, 156 MYAs have been approved and 109 MYAs have been completed, representing a completion rate of 70 per cent.

9. Table 3 summarized progress made by UNDP since 1991.

Table 3: Progress made by UNDP since 1991

Phase out achieved		Disbursement (US \$)	Average CE (US\$/kg)	Number of projects		Speed of delivery for completion (months)		Average project delays (months)	Number of MYAs	
ODP tonnes	CO ₂ -eq tonnes			Approved	Completed	Investment	Non-investment		Approved	Completed
68,821	240,094	820,879,422	11.15	2,591	2,441	34	39	7	156	109

HFC-related projects

10. As of 31 December 2021, the Executive Committee had approved 36 HFC-related projects (including three investment projects, 25 preparation projects and eight enabling activities) under regular contributions amounting to US \$6,318,767 (excluding agency support costs). A summary of the status of these projects is presented in table 4 and the respective data has already been included in paragraphs 5 to 9.

Table 4. HFC-related projects approved under regular contributions

Type	Number of projects			Funding (US \$)*			
	Approved	Completed	% completed	Approved	Disbursed	Balance	% disbursed
Investment**	3	2	67	2,491,767	2,159,576	332,191	87
Project preparation	25	0	0	3,183,000	0	3,183,000	0
Technical assistance - Enabling activities	8	4	50	644,000	423,586	220,414	66
Total	36	6	17	6,318,767	2,583,162	3,735,605	41

* Excludes agency support costs.

** 167.8 mt (240,094 CO₂-eq tonnes) was approved and phased out for investment projects.

11. As of the end of 2021, of the 36 projects, two investment projects and four enabling activities have been completed, leaving 30 ongoing. Extension of the completion dates of the four ongoing projects for enabling activities had been approved; these activities are at various stages of implementation.

¹⁰ Projects approved over 18 months with disbursement less than 1 per cent, or projects that had not been completed 12 months after the proposed completion date in the progress report (decision 22/61).

12. The remaining ongoing investment project, for which the extension of the completion date was approved at the 87th meeting, is expected to be completed in 2023.

13. Of the total cumulative funding approved of US \$6,318,767 (excluding agency support costs), US \$2,583,162 had been disbursed, representing a disbursement rate of 41 per cent.

I.2 Issues identified in project implementation in 2021

14. Further to the review process in 2021, several issues were discussed and satisfactorily addressed, except for issues on 20 projects classified as projects with implementation delays (including 19 projects related to components of MYAs that are subject to procedures for project cancellation, in line with decision 84/45(c); and one HFC investment project). Annex III to the present document presents those projects classified with implementation delays, and the Secretariat's recommendations requesting the submission of a report to the 92nd meeting.

15. In addition, issues have been identified in one IS and two MYA projects. These issues are also presented in Annex III. For each of these projects, a brief description on the status of implementation and the outstanding issues are presented and a recommendation is proposed for consideration by the Executive Committee.

16. Details of progress in implementation of projects associated with the HPMPs for China (overarching strategy and solvents sector plan),¹¹ India,¹² Nigeria (stage III),¹³ and South Sudan¹⁴ and reports on projects with specific reporting requirements¹⁵ associated with the HPMPs for Brazil, Colombia, Trinidad and Tobago, and Uruguay, have been submitted to the 91st meeting. Recommendations for outstanding issues for these projects, including approval of extension requests, if any, are addressed in the relevant sections of those documents. The issues relating to the HPMPs for Guyana, Mali and Nigeria (stage II), tranches of which were due at the 91st meeting but were not submitted, are addressed in the document on tranche submission delays.¹⁶

17. Of the 88 ongoing projects, excluding IS and project preparation, 21 projects have revised planned dates of completion since the 2020 progress report. In line with decision 82/11(c)(ii), the Secretariat noted that renewal of the IS project for China had not been submitted for the last two years.

II. Projects approved under the additional voluntary contributions for fast-start support for HFC phase-down

18. As of 31 December 2021, the Executive Committee had approved 18 HFC-related projects under the additional voluntary contributions amounting to US \$6,010,703 (excluding agency support costs). A summary of the status of these projects is presented in table 5.

Table 5. Status of approved HFC-related projects as of the end of 2021

Type	Number of projects			Funding (US \$)*			
	Approved	Completed	% completed	Approved	Disbursed	Balance	% disbursed
Investment**	2	2	100	4,406,610	4,402,590	4,020	100
Project preparation	5	5	100	83,511	83,511	0	100
Technical assistance - Enabling activities	11	10	91	1,520,582	1,450,187	70,395	95

¹¹ UNEP/OzL.Pro/ExCom/91/38

¹² UNEP/OzL.Pro/ExCom/91/42

¹³ UNEP/OzL.Pro/ExCom/91/49

¹⁴ UNEP/OzL.Pro/ExCom/91/52

¹⁵ UNEP/OzL.Pro/ExCom/91/18

¹⁶ UNEP/OzL.Pro/ExCom/91/21

Type	Number of projects			Funding (US \$)*			
	Approved	Completed	% completed	Approved	Disbursed	Balance	% disbursed
Total	18	17	94	6,010,703	5,936,288	74,415	99

* Excludes agency support costs.

** 480.6 mt (587,301 CO₂-eq tonnes) was approved and phased out for investment projects.

19. As of the end of 2021, of the 18 projects approved, 17 projects had been completed (two investment projects, five enabling activities and ten preparation activities). The remaining ongoing project for enabling activities, for which the completion date was extended, is expected to be completed in 2022.

20. Of the total cumulative funding approved of US \$6,010,703, US \$5,936,288 had been disbursed, representing a disbursement rate of 99 per cent.

III. Recommendation

21. The Executive Committee may wish:

- (a) To note the progress report of UNDP as at 31 December 2021 contained in document UNEP/OzL.Pro/ExCom/91/14; and
- (b) To approve the recommendations related to ongoing projects with specific issues contained in Annex III to the present document.

Annex I

**OVERVIEW OF STATUS OF PROJECT IMPLEMENTATION FOR UNDP
PER COUNTRY FOR 2021**

1. Table 1 of Annex I presents the status of project implementation by country for 2021 in achieved phased out, planned and achieved disbursements and project completion.

Table 1. Status of project implementation by UNDP for 2021

Country	Phased out in 2021 (ODP tonnes)	Phased out in 2021 (CO ₂ -eq tonnes)	Estimated funds disbursed in 2021 (US\$)	Funds disbursed in 2021 (US\$)	Percentage of funds disbursed over estimation in 2021	Percentage of planned projects completed in 2021*
Angola	5.2		44,727	19,150	43	100
Argentina	0		105,091	119,931	114	
Armenia	0		6,921	20,622	298	100
Bangladesh	0		695,591	540,551	78	0
Belize	0		26,500	17,953	68	100
Brazil	53.6		3,093,879	938,968	30	
Brunei Darussalam	0		10,924	8,212	75	0
Cambodia	0		22,735	40,000	176	
Chile	0		186,001	156,501	84	100
China	332.2		1,106,389	2,766,364	250	100
Colombia	63.4		843,183	1,721,706	204	
Costa Rica	0		126,541	155,021	123	
Cuba	0		231,234	144,689	63	100
Democratic Republic of the Congo (the)	2.2		17,143	2,931	17	
Dominican Republic (the)	0		299,125	206,124	69	100
Egypt	33.6		1,182,997	733,659	62	0
El Salvador	0		65,312	106,384	163	100
Eswatini	0		25,000	0	0	100
Fiji	0		48,926	54,779	112	50
Georgia	2.1		98,440	154,634	157	100
Ghana	8		133,642	208,244	156	100
Guyana	0		53,979	931	2	
Haiti	0.2		29,608	73,966	250	100
India	346.6		6,607,388	11,854,587	179	100
Indonesia	10.2		1,061,531	570,044	54	0
Iran (Islamic Republic of)	2.8		1,467,253	783,977	53	100
Jamaica	0		86,775	66,035	76	100
Kyrgyzstan	0		81,597	147,561	181	100
Lao People's Democratic Republic (the)	0		32,100	0	0	
Lebanon	1.9		309,221	485,572	157	100
Malaysia	9		891,540	470,118	53	100
Maldives	0		1,070	1,528	143	
Mali	0		19,875	0	0	0
Mauritania	0		31,500	0	0	0
Mexico	0		1,149,829	200,227	17	
Mozambique	0		10,000	0	0	0
Nepal	0		31,399	0	0	0

Country	Phased out in 2021 (ODP tonnes)	Phased out in 2021 (CO ₂ -eq tonnes)	Estimated funds disbursed in 2021 (US\$)	Funds disbursed in 2021 (US\$)	Percentage of funds disbursed over estimation in 2021	Percentage of planned projects completed in 2021*
Nigeria	30.4		797,834	672,685	84	0
Pakistan	0		34,011	114,474	337	100
Panama	5.7		293,709	362,214	123	100
Paraguay	0		19,478	18,177	93	100
Peru	0		80,525	52,512	65	
Republic of Moldova (the)	0		36,349	40,988	113	67
Sri Lanka	5.4		165,972	74,299	45	100
Timor-Leste	0		10,500	0	0	0
Trinidad and Tobago	0		244,291	181,805	74	100
Uruguay	0		366,533	304,780	83	40
Venezuela (Bolivarian Republic of)	0		99,201	59,577	60	
Zimbabwe	11.1**	15,873**	140,083	3,432	2	
Grand total	923.6	15,873	22,523,452	24,655,912	109	70

* For projects that were planned to be completed in 2021.

** 11.1 mt (15,873 CO₂-eq tonnes) phased out in 2021 for HFC-related projects.

Annex II

**OVERVIEW OF STATUS OF PROJECT IMPLEMENTATION FOR UNDP
PER YEAR AS AT 31 DECEMBER 2021**

1. Table 1 of Annex II presents an overview of the status of project implementation by year.¹ All projects and activities approved between 1991 and 2013 and in 2015, have now been completed.

Table 1. Status of project implementation by year

Year	Number of projects*			Funding (US \$)**			
	Approved	Completed	% completed	Approved	Disbursed	Balance	% disbursed
1991	15	15	100	1,149,032	1,149,032	0	100
1992	67	67	100	8,619,002	8,619,002	0	100
1993	57	57	100	13,204,712	13,204,712	0	100
1994	148	148	100	49,481,581	49,481,581	0	100
1995	117	117	100	29,599,446	29,599,446	0	100
1996	83	83	100	27,838,805	27,838,805	0	100
1997	188	188	100	44,056,257	44,056,257	0	100
1998	172	172	100	31,305,010	31,305,010	0	100
1999	204	204	100	35,896,884	35,896,884	0	100
2000	149	149	100	31,268,361	31,268,361	0	100
2001	179	179	100	35,292,271	35,292,271	0	100
2002	117	117	100	44,316,422	44,316,422	0	100
2003	64	64	100	36,336,530	36,336,530	0	100
2004	69	69	100	24,802,714	24,802,714	0	100
2005	53	53	100	29,124,833	29,124,833	0	100
2006	62	62	100	15,753,459	15,753,459	0	100
2007	54	54	100	12,142,486	12,142,486	0	100
2008	84	84	100	22,873,866	22,873,866	0	100
2009	92	92	100	13,217,903	13,217,903	0	100
2010	43	43	100	19,567,970	19,567,970	0	100
2011	63	63	100	57,415,931	57,415,931	0	100
2012	29	29	100	33,889,850	33,817,257	72,593	100
2013	43	43	100	34,432,909	33,958,972	473,937	99
2014	67	66	99	22,561,208	22,442,114	119,094	99
2015	75	75	100	31,409,354	30,229,223	1,180,131	96
2016	52	49	94	41,918,720	39,804,442	2,114,278	95
2017	27	22	81	30,616,637	30,129,464	487,173	98
2018	60	44	73	40,274,462	27,837,785	12,436,677	69
2019	41	22	54	10,391,357	4,474,052	5,917,305	43
2020	51	11	22	30,206,633	14,760,078	15,446,555	49
2021	66	0	0	24,646,043	162,560	24,483,483	1
Total	2,591	2,441	94	883,610,648	820,879,422	62,731,226	93

* Excludes closed and transferred projects.

** Excludes agency support costs.

¹ The data is presented according to the year when a project was approved by the Executive Committee. It treats all approvals (investment and non-investment projects) equally (i.e., an investment project or a funding tranche of an MYA of US \$1 million is considered one project, same as a country programme preparation of US \$30,000). Key indicators from the annual summary are: the percentage of projects completed, ODP tonnes/CO₂-eq tonnes phased out, and percentage of funds disbursed. There are three types of disbursements: during implementation, after implementation and for retroactively financed projects.

Annex III

ONGOING PROJECTS WITH OUTSTANDING ISSUES IN THE PROGRESS REPORT FOR UNDP

Country/project code	Project title	Disbursement (%)	Status/Issues	Recommendation
BGD/PHA/81/INV/51	HCFC phase-out management plan (stage II, first tranche) (air-conditioning sector)	20	12 months delays	To request UNDP to report to the 92 nd meeting on this project with implementation delays
BGD/PHA/81/TAS/49	HCFC phase-out management plan (stage II, first tranche) (project management unit)	26	12 months delays	To request UNDP to report to the 92 nd meeting on this project with implementation delays
BRA/PHA/82/INV/323	HCFC phase-out management plan (stage II, third tranche) (foam sector)	46	12 months delays	To request UNDP to report to the 92 nd meeting on this project with implementation delays
BRA/PHA/82/TAS/322	HCFC phase-out management plan (stage II, third tranche) (regulatory actions and project monitoring)	30	12 months delays	To request UNDP to report to the 92 nd meeting on this project with implementation delays
BRA/SEV/86/INS/324	Extension of institutional strengthening project (phase IX: 1/2021-12/2022)	0	Delays in project document signature	To request UNDP to provide a status report to the 92 nd meeting on status of signature of project document
CHI/PHA/81/INV/197	HCFC phase-out management plan (stage II, second tranche) (foam sector)	73	12 months delays	To request UNDP to report to the 92 nd meeting on this project with implementation delays
COS/PHA/84/INV/60	HCFC phase-out management plan (stage II, first tranche) (polyurethane foam sector)	0	18 months delays	To request UNDP to report to the 92 nd meeting on this project with implementation delays
CPR/PHA/80/INV/587	HCFC phase-out management plan (stage II, second tranche) (industrial and commercial refrigeration and air-conditioning sector plan)	100	12 months delays	To request UNDP to report to the 92 nd meeting on this project with implementation delays
EGY/PHA/79/TAS/132	HCFC phase-out management plan (stage II, first tranche) (project management and monitoring)	13	12 months delays	To request UNDP to report to the 92 nd meeting on this project with implementation delays
EGY/PHA/84/TAS/143	HCFC phase-out management plan (stage II, second tranche) (project management and monitoring)	0	18 months delays	To request UNDP to report to the 92 nd meeting on this project with implementation delays
GUY/PHA/83/INV/32	HCFC phase-out management plan (stage II, second tranche)	0	18 months delays	To request UNDP to report to the 92 nd meeting on this project with implementation delays
IDS/PHA/76/INV/211	HCFC phase-out management plan (stage II, first tranche) (fire fighting sector)	0	12 and 18 months delays	To request UNDP to report to the 92 nd meeting on this project with implementation delays
IDS/PHA/76/TAS/210	HCFC phase-out management plan (stage II, first tranche) (refrigeration servicing sector)	54	12 months delays	To request UNDP to report to the 92 nd meeting on this project with implementation delays

Country/project code	Project title	Disbursement (%)	Status/Issues	Recommendation
IDS/PHA/81/INV/213	HCFC phase-out management plan (stage II, second tranche) (refrigeration servicing sector)	0	12 and 18 months delays	To request UNDP to report to the 92 nd meeting on this project with implementation delays
KAM/PHA/83/INV/36	HCFC phase-out management plan (fourth tranche)	76	12 months delays	To request UNDP to report to the 92 nd meeting on this project with implementation delays
MAL/PHA/77/TAS/183	HCFC phase-out management plan (stage II, first tranche) (management and coordination)	16	12 months delays	To request UNDP to report to the 92 nd meeting on this project with implementation delays
MAL/PHA/84/TAS/186	HCFC phase-out management plan (stage II, second tranche) (refrigeration servicing sector)	0	18 months delays	To request UNDP to report to the 92 nd meeting on this project with implementation delays
MAL/PHA/84/TAS/187	HCFC phase-out management plan (stage II, second tranche) (management and coordination)	0	18 months delays	To request UNDP to report to the 92 nd meeting on this project with implementation delays
NEP/PHA/86/INV/41	HCFC phase-out management plan (stage II, first tranche)	0	Project implementation affected due to changes in administrative procedures in the Government	To request UNDP to provide a status report to the 92 nd meeting on implementation progress
NEP/PHA/86/INV/44	HCFC phase-out management plan (stage I, third tranche)	0	Project implementation affected due to changes in administrative procedures in the Government	To request UNDP to provide a status report to the 92 nd meeting on implementation progress
TLS/PHA/80/INV/15	HCFC phase-out management plan (stage II, first tranche)	36	12 months delays	To request UNDP to report to the 92 nd meeting on this project with implementation delays
URU/PHA/85/INV/75	HCFC phase-out management plan (stage II, third tranche) (refrigeration servicing sector and implementation and monitoring)	51	12 months delays	To request UNDP to report to the 92 nd meeting on this project with implementation delays
ZIM/REF/82/INV/55	Conversion from HFC-134a to isobutane in the manufacture of domestic refrigerators at Capri (SME Harare)	0	18 months delays	To request UNDP to report to the 92 nd meeting on this project with implementation delays



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**Executive Committee of the Multilateral Fund
for the Implementation of the Montreal Protocol**

UNDP Annual Progress and Financial Report Narrative: 1991-2021

91st Meeting, 28 November – 2 December 2022, Montreal,
Canada

I. INTRODUCTION

The following narrative is based on a database of 2708 projects funded by the Multilateral Fund, which contains basic information on their status of implementation as of 31 December 2021. However, some updates of activities which took place during 2022 are also included for information purposes. The database results in 11 summary tables which can be found at the end of this report, and which are referred to throughout this narrative.

As can be seen in the following sections, UNDP has disbursed US\$ 826,815,710 of the US\$ 889,621,357 worth of projects that were approved under the Multilateral Fund since its inception in 1991. These programmes were supposed to eliminate 70,573 ODP T/year, of which 69,339 (98%) were phased out as of 31 December 2021. This demonstrates UNDP's important role in the success of MLF's assistance towards the elimination of Ozone Depleting Substances.

As of the end of 2021, UNDP was active in 49 countries, of which 23 are low volume consuming (LVCs). The vast majority of ongoing projects are implemented using the National Implementation modality, providing countries with larger country ownership.

A large portion of the current ongoing programmes consist of HCFC phase-out management plans (HPMPs). UNDP is the lead agency in 29 countries, including such key countries for the Montreal Protocol, as Brazil, China, and India. In all countries, UNDP is providing technical support for countries to meet their targets set forth under the Montreal Protocol and these three key countries are progressing towards their targets. In addition, UNDP also acts as the cooperating agency in 18 countries.

Furthermore, in 2021, the COVID-19 pandemic continued to pose limitations on project implementation. Despite this challenging situation, UNDP, with its network of country offices, remains fully committed to meet the increased workload and ensure that countries receive the assistance needed to be in compliance with all requirements of the Montreal Protocol.

UNDP has been at the forefront of technical assessments and demonstration projects for potentially cost-effective alternatives to HCFCs that minimize environmental impacts, particularly for those specific applications where such alternatives are not presently available and applicable. Pursuant to ExCom decision 72/40, UNDP has prepared a number of projects to demonstrate climate-friendly and energy-efficient alternative technologies to HCFCs, and feasibility studies on district cooling. UNDP received approval and implemented eight demonstration projects to replace HCFCs with low-GWP alternatives in seven countries. The technologies deployed in the HCFC demonstration projects are relevant to the HFC phase-down in the Kigali Amendment. The factsheets on these projects are available at the MLF website.

Pursuant to ExCom decision 78/3(g), UNDP prepared investment/demonstration projects to phase down HFCs and received approval for five HFC technology demonstration investment projects in Bangladesh, China, Dominican Republic, Mexico and Zimbabwe. The technology demonstration project in Bangladesh has been completed and submitted to the Executive Committee in 2020, making it the first HFC investment project of the MLF to have been finalized, thereby providing invaluable information to the Executive Committee for the requirements of the upcoming HFC phasedown. The HFC technology demonstration activities in China, Dominican Republic and Mexico have also been completed by the end of 2021. UNDP is also supporting 19 countries to undertake enabling activities for ratification and early implementation of the Kigali Amendment and the majority of the countries (China, Colombia, Costa Rica, Cuba, El Salvador, Fiji, Haiti, Jamaica, Lebanon, Panama, Paraguay, Peru, Trinidad & Tobago, Uruguay) have completed these activities.

While the COVID-19 pandemic continued to impose limitations on project implementation, Article 5 countries and UNDP have been able to adapt some of our operations in order to ensure the continuation of the implementation of activities under the Multilateral Fund in 2021. Although missions have been restricted since March 2020, UNDP has continued to implement the projects through our country offices, staying in communication with NOUs and providing support remotely (through online meetings) on preparation of annual work plans, review of project-related documents, procurement, clarification of policy and technical issues, submission of tranche requests, drafting of project completion reports, and financial disbursement issues.

In view of the time-consuming process for the procurement of tools for the servicing sector, UNDP Montreal Protocol team worked together with the procurement center of UNDP in Copenhagen to establish long term agreements with qualified suppliers through an international competitive process. In 2021, this new approach of accelerating the procurement process specially for the projects in low-volume countries was implemented in a number of countries in the Latin American and Caribbean and Africa regions.

Furthermore, UNDP continued to organize virtual and online-based activities to assist countries in meeting their Montreal Protocol obligations. In 2021, the UNDP Montreal Protocol team organized almost 20 webinars aimed at strengthening the capacity of NOUs from Latin America and the Caribbean and the Asia Pacific on the implementation of the Montreal Protocol and the Kigali Amendment. The webinars were organized to cover topics such as the requirements for the licensing and quota systems for HFCs to implement the Kigali Amendment, addressing the challenges of new technologies and energy efficiency in the RAC Sector, and delivering energy efficient and climate friendly cooling through National Cooling Action Plans (NCAPs) (please see Annex 1 for a full list of the webinars offered in 2021). With financial support from the US EPA and in cooperation with the National Ozone Unit of Colombia, UNDP organized a webinar series titled “Closing the loop: environmentally sound management of end-of-life ODS and HFC”. These webinars were organized in June 2021 and delivered the following thematic sessions: (1) Contextual introduction, and sustainable regulatory and institutional framework; (2) Development of required infrastructure; and (3) Sustainable financing mechanisms. All the materials of the webinar series are available [online](#).

Finally, in order to strengthen the application of the MLF’s new [Operational Policy on Gender Mainstreaming](#) for UNDP’s Montreal Protocol portfolio, two webinars on gender and the Montreal Protocol were organized by UNDP in 2021. The objective of these webinars was to improve the mainstreaming of gender into UNDP’s Montreal Protocol projects and promoting the application of a gender responsive approach to activities under the Montreal Protocol.

II. PROJECT APPROVALS AND DISBURSEMENTS

A. Annual Summary Data (See table 1)

Table 1: “Annual Summary” shows the important summary data on the number of project approvals, corresponding budgets, ODP, and disbursement figures. The table highlights that, cumulatively, as of 31 December 2021, UNDP had a total of 2708 approved projects under the Multilateral Fund, of 88 which had been canceled or transferred. Of the 2,608 remaining projects, 2,458, or 94% have been completed. They are set to eliminate 70,573 ODP T/year, of which 69,339 ODP T (98%) have already been eliminated.

As of 31 December 2021, UNDP had received cumulative net project approvals of US\$

889,621,357 (excluding support costs). Of these, UNDP, as of end-2021, had disbursed US\$ 826,815,710 excluding all obligations. This translates to 93% of approved funding. Furthermore, an additional US\$ 2,859,546 of obligations were outstanding as of end-December 2021, representing orders placed but final payments not yet made.

B. Interest and Adjustments

Interest income earned on MLF resources in 2021 is US\$ 474,645. Once the financial statements are submitted to the MLF Treasurer by the agreed deadline of 30 September, the difference between the provisional and final 2021 interest income can be adjusted against UNDP project approvals at the 91st ExCom meeting. The estimated interest for 2021 of \$500,000 exceeds actual interest of \$474,645. Therefore a refund of \$25,355 will be due to UNDP.

C. Summary Data By Type and Chemical [CPG, DEM, INS, INV, PRP, TAS, TRA] (See table 2)

Table 2: Summary Data by Project Type presents an overview of the approvals by the type of project. It demonstrates that of the total amounts approved, 82.4% of the budgets were dedicated to investment projects, 5.5% to technical assistance projects, 9.2 % to institutional strengthening and to project preparation activities. The remaining 8.2% was dedicated to country programmes and demonstration/training activities.

III. GLOBAL AND REGIONAL PROJECT HIGHLIGHTS

A. **Global Projects:** There is one on-going global programme under implementation by UNDP:

GLO/SEV/88/TAS/360, the Core unit support (2022) programme approved at the 88th meeting of the Executive Committee, that covers the administrative costs of UNDP’s Montreal Protocol Unit; and continuation of Core Unit support at a level that allows UNDP to provide the oversight, reporting and assistance needed to sustain the large programme is critical.

B. **Regional Projects:** There are no ongoing regional projects at this time.

IV. PERFORMANCE INDICATORS

A. Results in 2021

Decision 41/93 of the Executive Committee approved the following indicators to allow for the evaluation of performance of implementing agencies, with the weightings indicated in the table below. Annex XI of the report of the 86th meeting of the Executive Committee contained UNDP’s 2021 targets. One can see from the table below that UNDP fully met 4 out of 9 of its targets and that its score amounts to 95%.

Category of performance indicator	Item	Weight	UNDP’s target for 2021	Result achieved in 2021	Score
1. Approval	Number of tranches approved vs. those planned*	10	24	19 → 79%	7.9
2. Approval	Number of projects/activities approved vs. those planned (including project preparation activities)**	10	49	45 → 92%	9.2
3. Implementation	Funds disbursed	15	\$ 22,419,984	\$24,520,699 → 100% (see annex 1, 3)	15.0
4. Implementation	ODS phase-out for the tranche when the next tranche	25	368.27	348.1 → 95%	23.6

Category of performance indicator	Item	Weight	UNDP's target for 2021	Result achieved in 2021	Score
	is approved vs. those planned per business plans			(see annex 1, 4)	
5. Implementation	Project completion vs. planned in progress reports for all activities (excluding project preparation)	20	49	48 → 98% (see annex 1, 5)	19.6
6. Administrative	The extent to which projects are financially completed 12 months after project completion	10	70% of those due (out of 62, so target is 43)	44 finrevs	10.0
7. Administrative	Timely submission of project completion reports vs. those agreed	5	100% of those due (3)	100% achieved (3 individual PCRs)	5.0
8. Administrative	Timely submission of progress reports and responses unless otherwise agreed	5	On-time	100% achieved (see annex 1, 9)	5.0
TOTAL		100			95

*The target of an agency would be reduced if it could not submit a tranche owing to another cooperating or lead agency, if agreed by that agency.

** Project preparation should not be assessed if the Executive Committee has not taken a decision on its funding.

Note on performance indicators on MYA tranches and corresponding ODP phaseout:

For Barbados, St. Kitts and Nevis and Haiti, UNDP has completed all its tasks for Stage I. The delay is on the lead agency's side. For Guyana, we are waiting for the cooperating agency to finalize the implementation of tranche 2. We are ready for the request of tranche 3.

As UNDP's tranches were ready in 2021 as we had planned for these four countries, our performance target for MYAs should be reduced from 28 to 24 and the performance indicator for ODS phase-out should be adjusted accordingly.

B. Cumulative completed investment projects (Table 4)

As Table 4: Cumulative completed investment projects shows, a total of 1,266 investment projects have been completed, with a corresponding elimination of 63,029 ODP T. Of the US\$ 639,702,004 in their approved budgets in the sectors of Foam, Refrigeration, Phase-out Plan, Aerosol, Solvents, Fumigants, Halon, Process Agents, and Sterilants, 99% has already been disbursed. It took an average of 13 months from approval to first disbursement and 34 months from approval to completion. The overall cost-effectiveness of the projects to the Fund was \$10.15 /kg. A breakdown of this group of projects is given by region, sector, implementation modality, etc.

C. Cumulative completed non-investment projects (Table 5)

As Table 5 shows, UNDP has completed 651 non-investment projects excluding project preparation assistance. Of the US\$ 116,927,414 in their approved budgets, 99% has been disbursed. It took an average of 13 months from approval to first disbursement and 39 months from approval to completion. A breakdown of this group of projects is given by region, type, sector, implementation modality, etc.

D. Cumulative ongoing investment projects (Table 6)

As can be seen in Table 6, UNDP has 67 ongoing investment projects in the sectors of Phase-out Plans and Foam, with corresponding budgets of US\$ 83,834,464. Of this amount, 50% has already been disbursed. It takes an average of 9 months from approval to first disbursement and an average of 42 months from approval to the estimated project completion. The overall cost-effectiveness of the projects to the Fund was \$65.77 /kg. A breakdown of this group of projects is given by region, sector, implementation modality, etc.

E. **Cumulative ongoing non-investment projects (Table 7)**

Table 7 shows that UNDP has 46 ongoing non-investment projects excluding project preparation assistance. Of the US\$ 15,835,912 in approved budgets, 32% has been disbursed. It takes an average of 12 months from approval to first disbursement and 39 months from approval to the estimated project completion. A breakdown of this group of projects is given by region, type, sector, implementation modality, etc.

V. STATUS OF AGREEMENTS AND PROJECT PREPARATION BY COUNTRY

A. **Agreements To Be Signed/Executed/Finalized**

Since UNDP has a standard legal agreement in place in each developing country that covers UNDP activities in that country, no additional legal agreement is required. For new projects, the UNDP country office will engage with the implementation partner in the country to sign the Project Document which details the topic, objective, activities and implementation modality of the project. There were no specific issues related to this in 2021.

B. **Project Preparation By Country, Approved Amount And Amount Disbursed (Table 8)**

Table 8: Project Preparation by Country, Approved Amount and Amount Disbursed, indicates active project preparation accounts. Of the ongoing 37 PRP projects listed with US\$ 3,835,500 in associated approvals, 1% has been disbursed.

VI. DESCRIPTION OF KEY ONGOING ACTIVITIES

This section contains a narrative description of the following key ongoing activities:

- A. Standalone investment projects for HFCs
- B. HFC Enabling Activity projects
- C. Kigali Implementation Plan (KIP) Preparation
- D. Country Highlights

A. **HFC investment projects**

Pursuant to ExCom decision 78/3(g), UNDP has prepared investment/demonstration projects to phase down HFCs and, so far, has received approval for five HFC technology demonstration projects listed below.

- **Bangladesh:** Conversion from HFC-134a to isobutane as refrigerant in manufacturing household refrigerator and of reciprocating compressor of HFC-134a to energy efficient compressor (isobutane) in Walton Hi-Tech Industries Limited

ExCom Decision 80/42(a) approved the first HFC phase-down investment project in support of the Kigali Amendment, assisting Walton Hitech Industries Limited, Bangladesh, to convert the refrigerant used by this domestic refrigerator manufacturing facility from HFC-134a to isobutane (R-600a), including the conversion of its compressor manufacturing facility. Walton has an installed capacity of 3 million units of domestic refrigerators and of 4 million compressors (the final Report on Walton's conversion is expected to be considered at the 86th ExCom).

UNDP supported the project's implementation, which started in January 2018 and was operationally

completed in December 2019, spanning 24 months of implementation, and meeting the original timeframe agreed under the project. The project included a final safety audit on the installation. The conversion has successfully phased-out 197.30 metric tonnes of HFC-134a at Walton, with additional reduction of 33.30 metric tonnes of HFC-134a per annum in the servicing sector as an additional early phase-down commitment from the Government of Bangladesh. In terms of accumulated direct emissions, following the IPCC Methodology, the conversion from HFC-134a to HC-600a at Walton will avoid the direct emission of 7,978,873 tons of CO₂-equivalent of HFC-134a from 2020 to 2050.

A complementary K-CEP project also supported the development of improved design of the fixed-speed compressors to increase the energy efficiency performance of domestic refrigerators. The re-design of refrigerator and the compressor has resulted in 10 to 30% energy savings from baseline induction-based compressors. As result, based on the minimum increased energy efficiency of 10%, the new refrigerators are estimated to avoid the indirect emissions of, at least, 35,025,8090,980 CO₂-equivalent tonnes from 2020 to 2050.

- **China:** Conversion from C5+HFC-245fa to C5+HFOs in a domestic refrigerator manufacturer (Hisense Kelon)

The 82nd Executive Committee approved the project proposal for the conversion from HFC-245fa and cyclopentane to HFO-1233zd(E) and cyclopentane in the manufacture of domestic refrigerators at Hisense Kelon in the amount of US \$1,275,000 in response to the Decision 79/45, aiming to gather information related to incremental costs that could support the discussion on the cost guidelines for the HFCs Phase-down. The Project was completed in June 2021 and eliminated 250mt of HFC-245fa consumption through the conversion of a production line, by replacing the use of C5+HFC-245fa with C5+HFO1233zd as foaming co-blowing agent. In addition, in view of the high operational cost of cyclopentane + HFO-1233zd system, Hisense invested their own resources to carry out further research on low-density systems. As a result, ultra-low density three-component blowing agent composed by cyclopentane+HFO-1233zd+butane system is being developed, which can reduce the foam density the amount of raw materials by 5-8% without compromising the performance.

With the successful adoption of co-blowing cyclopentane and HFO-1233zd, 259,195 tons of CO₂-eq of HFC-245fa in the annual production were reduced. The energy consumption of the refrigerator after the conversion also decreased by 2.12%. It is estimated that 1.2 million units could avoid indirect emissions of 5,847.3 tons CO₂ per year.

The project reached its objective and provided detailed information on the alternative technology and related costs.

- **Dominican Republic:** Conversion of a commercial refrigerator manufacturing line at Fábrica de Refrigeradores Comerciales, SRL (FARCO) from HFC-134a and R-404A to propane (R-290) as refrigerant

The project of FARCO in the Dominican Republic was approved in 2018 and completed in 2020. The completion report was submitted to the MLF in 2021. FARCO now has the capacity to produce all of its self-contained commercial refrigeration units with R-290. The consumption of HFCs in FARCO is small, however, it is an important project for the country to meet its obligations for the Kigali Amendment and reduce the production and servicing demands of HFCs. The total cost of the project was USD\$ 662,986 (USD\$ 129,825 from the Multilateral Fund, USD\$ 50,000 from the government of Canada and USD\$ 483,161 from FARCO). With the conversion, 3.95 mt of HFC-134a and R-404A were phased out. The

project also supports the training of technicians for the safe handling of flammable refrigerants. This is an important achievement not only for the Dominican Republic but also for other islands in the Caribbean where FARCO sells their units.

- **Mexico:** Conversion of domestic refrigeration manufacturing facility from HFC-134a to isobutane as a refrigerant and conversion of compressors manufacturing facility from HFC-134a-based to isobutane-based at Mabe Mexico

The project was approved at the 81st meeting of the ExCom in June 2018 with USD 2,700,000, and was operationally completed in June 2020. Mabe has six manufacturing lines producing domestic refrigerators using HFC-134a. All lines have been fully converted and can use R600a safely. Safety audit was completed at both the compressor and refrigerator manufacturing plant. Additional 500,000 USD was provided by the Government of Canada and 250,000 USD by K-CEP to support the conversion and improvement of energy efficiency. The project phased out 198 MT of HFC 134a, which is equivalent to 283,140 MT of CO₂. MABE provided significant co-financing in the conversion. The completion report with all detailed information was submitted by UNDP to the MLF Secretariat in 2021.

- **Zimbabwe:** Conversion from HFC-134a to isobutane in the manufacture of domestic refrigerators at Capri (SME Harare)

The HFC demonstration project for Zimbabwe on “Conversion from HFC-134a to isobutane in the manufacture of domestic refrigerators at Capri (SME Harare)” was approved by the Executive Committee at its 82nd meeting for UNDP and bilateral partner of France. Due to the small levels of consumption, Capri needs to find co-financing for the conversion in addition to the grant provided by the MLF. During 2021, UNDP supported Capri in realizing the earlier committed co-finance resources, including from the company’s sources and national development funds. US\$ 200,000 of additional support has been identified already. With these confirmed co-finance resources, Capri and NOU-Zimbabwe are now in a position to complete works on the technology specifications and proceed with tendering processes in the remaining time of 2022. The project may require a slight extension to allow for completion of technology transition process in 2023.

B. HFC Enabling Activity projects

As highlighted earlier in the report, UNDP is providing support to 19 countries to undertake their HFC enabling activities (EAs) for ratifying and early implementation of the Kigali Amendment. 12 EA projects have been completed by the end of 2021. For more details on the status of these activities, please see the table below.

Country	MLF Number	Project Title	Ratification Status	Latest Status
Bangladesh	BGD/SEV/81/TAS/52	Enabling activities for HFC phase-down	Ratified Kigali on 8 June 2020.	Final consultation was held in May on the assessment reports. Final Report will be prepared in Q3 and Q4.
Belize	BZE/SEV/85/TAS/37	Enabling activities for HFC phase-down	Country has not ratified Kigali yet.	HFC Enabling Activities finalized. Train the Trainers by International Consultant Performed in 2022
Chile	CHI/SEV/80/TAS/03+	Enabling activities for HFC phase-down	Ratified Kigali on 19 Sept	NOU and customs held meetings to discuss HFC

			2017.	control system. Awareness activities on the Kigali Amendment carried out.
China	CPR/SEV/80/TAS/04+	Enabling activities for HFC phase-down	Ratified Kigali Amendment in June 2021.	The amended Regulation on the Administration of ODS has been approved in principle at the ministerial executive meeting of MEE in May 2021. Substantial progress has been made for the preparation of HS code with codes designated for 18 HFCs and 4 blends. The project has been completed.
Colombia	COL/SEV/80/TAS/01+	Enabling activities for HFC phase-down	Ratified Kigali on 25 Feb 2021.	An evaluation was conducted to the terms of reference for the environmental licenses for HFC imports and export.
Costa Rica	COS/SEV/80/TAS/01+	Enabling activities for HFC phase-down	Ratified Kigali on 23 May 2018.	Final report being prepared by the NOU in Costa Rica
Cuba	CUB/SEV/81/TAS/57	Enabling activities for HFC phase-down	Ratified Kigali on 20 June 2019.	Legal framework assessment to foster control of HFC was completed. Awareness raising material was produced.
El Salvador	ELS/SEV/81/TAS/37	Enabling activities for HFC phase-down	Country has ratified Kigali on 13 September 2021.	Awareness raising material produced.
Fiji	FJI/SEV/80/TAS/01+	Enabling activities for HFC phase-down	Ratified Kigali on 16 June 2020.	Stakeholders Validation Workshop was held in February 2021. EA report is under preparation
Haiti	HAI/SEV/84/TAS/23	Enabling activities for HFC phase-down	Country has not ratified Kigali yet.	Results from the survey in process of being analyzed. Stakeholder consultations for Policy Components related to the ratification of the Kigali Amendment in progress
Iran	IRA/SEV/82/TAS/232	Enabling activities for HFC phase-down	Country has not ratified Kigali yet.	Government continued the final validation and endorsement process of Sector use and Consumption Reports.
Jamaica	JAM/SEV/80/TAS/01+	Enabling activities for HFC phase-down	Country has not ratified Kigali yet.	Strengthening of Tariff codes for HFCs performed. Virtual training and awareness in progress

Lebanon	LEB/SEV/80/TAS/02+	Enabling activities for HFC phase-down	Ratified Kigali Amendment on 5 Feb 2020.	<p>The draft decree for the amendment of the ODS licensing system to include HFCs is completed and submitted for Cabinet approval.</p> <p>Awareness raising of stakeholders on HFCs phase-down and energy efficiency improvement options conducted.</p> <p>Harmonized Customs Codes assessed in line with the new series of pure and blended HFCs for future action.</p> <p>Implementation of the new HFCs data reporting system has progressed.</p>
Moldova	MOL/SEV/85/TAS/41	Enabling activities for HFC phase-down	Country has not ratified Kigali yet.	The final report containing proposal of revision of the National Commodity Description and Coding System, and the related package was presented in February 2022.
Panama	PAN/SEV/81/TAS/46	Enabling activities for HFC phase-down	Ratified Kigali on 28 Sept 2018.	Awareness material prepared and produced. Assessment of training institutions was completed. National Roadmap to phase down HFC is being prepared.
Paraguay	PAR/SEV/81/TAS/01+	Enabling activities for HFC phase-down	Ratified Kigali on 1 Nov 2018.	Virtual meetings conducted with stakeholders to increase knowledge of the Kigali Amendment.
Peru	PER/SEV/80/TAS/01+	Enabling activities for HFC phase-down	Ratified Kigali on 7 Aug 2019.	Activities completed.
Trinidad and Tobago	TRI/SEV/80/TAS/01+	Enabling activities for HFC phase-down	Ratified Kigali on 17 Nov 2017.	Development of Cost analysis of HFC phasedown per sector performed.
Uruguay	URU/SEV/80/TAS/02+	Enabling activities for HFC phase-down	Ratified Kigali on 12 Sept 2018.	Virtual meetings conducted with stakeholders to increase knowledge of the Kigali Amendment.

C. KIP Preparation

As of mid-2022, UNDP has received approval from the Multilateral Fund to provide support to 28

countries to prepare their Kigali Implementation Plans as the lead or cooperating agency. For more details on these countries, please see the table below.

Country	MLF Number	Project Title
Angola	ANG/KIP/88/PRP/24	Preparation of Kigali HFC implementation plan
Bangladesh	BGD/KIP/90/PRP/58	Preparation of Kigali HFC implementation plan
Bhutan	BHU/KIP/87/PRP/29	Preparation of Kigali HFC implementation plan
Chile	CHI/KIP/88/PRP/207	Preparation of Kigali HFC implementation plan
Colombia	COL/KIP/87/PRP/110	Preparation of Kigali HFC implementation plan
Costa Rica	COS/KIP/87/PRP/63	Preparation of Kigali HFC implementation plan
Cuba	CUB/KIP/87/PRP/65	Preparation of Kigali HFC implementation plan
Dominican Republic	DOM/KIP/87/PRP/73	Preparation of Kigali HFC implementation plan
El Salvador	ELS/KIP/88/PRP/44	Preparation of Kigali HFC implementation plan
Fiji	FIJ/KIP/88/PRP/41	Preparation of Kigali HFC implementation plan
Ghana	GHA/KIP/87/PRP/51	Preparation of Kigali HFC implementation plan
Grenada	GRN/KIP/88/PRP/28	Preparation of Kigali HFC implementation plan
Cambodia	KAM/KIP/88/PRP/40	Preparation of Kigali HFC implementation plan
Kyrgyzstan	KYR/KIP/87/PRP/45	Preparation of Kigali HFC implementation plan
Laos PDR	LAO/KIP/87/PRP/39	Preparation of Kigali HFC implementation plan
Lebanon	LEB/KIP/87/PRP/98	Preparation of Kigali HFC implementation plan
Maldives	MDV/KIP/87/PRP/36	Preparation of Kigali HFC implementation plan
Mexico	MEX/KIP/87/PRP/195	Preparation of Kigali HFC implementation plan
Mozambique	MOZ/KIP/90/PRP/36	Preparation of Kigali HFC implementation plan
Nigeria	NIR/KIP/87/PRP/156	Preparation of Kigali HFC implementation plan
Panama	PAN/KIP/87/PRP/53	Preparation of Kigali HFC implementation plan
Paraguay	PAR/KIP/87/PRP/42	Preparation of Kigali HFC implementation plan
Peru	PER/KIP/87/PRP/59	Preparation of Kigali HFC implementation plan
Sri Lanka	SRL/KIP/87/PRP/59	Preparation of Kigali HFC implementation plan
Eswatini	SWA/KIP/87/PRP/33	Preparation of Kigali HFC implementation plan
Trinidad & Tobago	TRI/KIP/87/PRP/40	Preparation of Kigali HFC implementation plan
Turkiye	TUR/KIP/90/PRP/112	Preparation of Kigali HFC implementation plan
Uruguay	URU/KIP/87/PRP/77	Preparation of Kigali HFC implementation plan

D. Country Highlights (January – December 2021)

UNDP has been dedicated to finding innovative solutions for countries to address their Montreal Protocol compliance obligations. Interventions have supported countries to strengthen the coordination of stakeholders, access emerging technologies, improve operational standards and skills of technicians, reduce energy bills for consumers, and allow indigenous manufacturers to maintain competitiveness.

The next section showcases several prominent examples showing the impact of UNDP's support at the country level.

Bangladesh – Improving Capacities in the Servicing Sector under the Enabling Activities



The government of Bangladesh decided to convert their Domestic Refrigeration, AC manufacturing and Chillers (MLF-eligible) manufacturing industries to R-600a, R-290/R-32 and R-32, respectively. The country is not familiar with A3 and A2L class of refrigerants. While current market penetration of such products is still relatively low, it is expected that the demand will increase rapidly in the future.

Taking advantage of the Enabling Activity for HFC Phase-down, approved by the Multilateral Fund (MLF) during the 81st Executive Committee (ExCom) Meeting, additional contribution was provided by Environment and Climate Change Canada (ECCC), as co-finance for the implementation of a capacity building for the servicing sector to pilot tailor-made trainings were designed and delivery to provide theoretical (30%) and practical skills (70%). 162 Technicians that handle these types of AC-R equipment were trained in four training programmes, including a Refrigeration Specialists Training (TRACE – “Train the Trainers”). The training also contained a Policy Sensitization section to be carried out by the Department of Environment (DoE), as NOU will also join. As follow up, the Director General of Department of Environment, as a Chief Guest, awarded certificates to participants during the Certificate Awarding Ceremony on 21 December 2020.

These trainings are critical to start forming an initial basis of qualified technicians that can support the deployment of the new products converted by the HPMP, and also offered valuable lessons learned to the NOU in terms of understanding the new technological needs for these type of products, how to properly and safely install and maintain flammable-based equipment, actions that can increase the life cycle of the products and to maintain the intended energy efficiency performance. These lessons learned are expected to be applied in future capacity building activities under the KIP implementation.

Chile

The introduction of HFO-based polyurethane systems has been challenging in Latin America, due to technical challenges, limited supply and higher costs, nevertheless, the implementation of the foam component of the HPMP 2 of Chile has been an example of HFO-based polyurethane systems uptake. The NOU, UNDP and its technical expert, system houses and beneficiary companies worked together to overcome the challenges for the introduction of HFO-based systems. All parts involved worked to highlight the environmental and technical advantage of HFO-based systems over other interim technologies, which facilitate the buy-in for all beneficiary companies of the umbrella and individual projects. Currently, 35 companies work with these systems which were converted thanks to the financial support of the Multilateral Fund through 7 individual and 2 umbrella projects

China

UNDP is supporting China to advance the phase-out of HCFCs in ICR and Solvent sectors. For the ICR sector, in the first three tranches, 18 manufacturing lines were converted for phasing-out 2,557 tonnes of HCFC 22. The fourth tranche was approved for the conversion of additional 14 manufacturing lines which would lead to the phase out of 1,492.28 tons of HCFC-22. A large co-finance amount from concerned companies are required for the conversion.

Under the Solvents Sector, the conversions in 24 manufacturing lines were carried out during the first, second and third tranches, resulted in the phasing-out of 1,176 tons of HCFC-141b. Additional 25 companies (mostly SMEs) with HCFC-141b consumption of 372.1 tons are under implementation in the

fourth tranche.

The project management unit in MEE/FECO is intensifying their efforts of promoting low GWP alternatives through technical assistance activities with support from Industry Associations. Trainings and experience sharing are being delivered for the enterprises that need to shift their technologies from HCFCs to alternatives.

Ghana: Integration of refrigerant transition and energy efficiency

The stage-I HPMP for Ghana is being completed. The stage-II project for the complete phase-out of HCFC consumption by 2030 was approved at the 87th meeting of the MLF. Ghana has established an affiliated center of excellence in Northern Ghana within the University of Development Studies, Tamale to serve as the training center for both formal and informal RAC sector. In collaboration with national RAC associations (RAAG and NARWOA), a total of 200 technicians were trained on minimum energy performance standards and the enforcement for the ban on second-hand AC equipment imports. As an awareness raising activity, a video for the general public, “Do’s and Don’t’s of refrigeration” was published in English and the local language, Twi. In addition, Ghana has developed a National Cooling Plan, with the support of Kigali Cooling Efficiency Programme.

India: Partnership for supporting SMEs and sustainability of HCFC phase-out

Hundreds of small businesses in the foam sector have been a significant challenge for India in the HCFC-141b phase-out. HPMP Stage-II aimed to phase out all HCFC-141b by 2020 and minimize adverse economic impacts to the foam manufacturing industry. In view of the challenges, a special partnership has been established.

The Ozone Cell has entered into a Memorandum of Agreement (MOA) with a technical and research institution of the Department of Chemicals and Petrochemicals (DCPC), who provided adequate technical support to the MSMEs in customization and optimization of alternative formulations at the enterprise level on-site as well as training on the safe use of alternatives to suit local conditions. After 2020, the technical and research institution continues to deliver support to those enterprises for improvement of production processes. They have now become an “Independent Centre of Excellence” for technical matters related to the PU Foam Industry and are providing additional services by using their state-of-the-art laboratory. This partnership established between the Ozone Cell and the DCPC strengthened the cooperation of different governmental institutions, being a unique action that not only facilitated the successful phase out of HCFC-141b, but is expected to continue sustaining the phase-out of the HCFC-141b by the MSMEs.

Kyrgyzstan

The Government of Kyrgyzstan as an Article 5 country has successfully completed implementation of an expedited HCFC phase-out schedule in 2021, 10 years ahead of schedule, with the support of UNDP. The capacity of the country in the management of HCFCs and recycling and re-use system has been significantly strengthened. In addition, efforts have been made to introduce low-carbon refrigeration technologies, such as demonstration of propane-based installations in the commercial sector and not-in-kind technologies in the cellular network systems. This demonstration activity helps address the capacity issue of a lack of competence and skills to operate natural refrigerants, that has been an issue in the past in these important economic sectors.

Panama

Within the framework of the second stage of the HPMP, the Panama NOU worked closely with vocational schools around the country to spread the new skills and knowledges that are needed in the

transition of technologies. In order to strengthen their refrigeration and air conditioning laboratories, young students (future-to-be technicians) were given tools and equipment to incorporate good refrigeration practices in their courses. The NOU and the Ministry of Education collaborate with each other to support these vocational schools, with an emphasis on rural and deprived areas. From each vocational school, basic tools sets were distributed to 32 outstanding students to motivate them uptake the new technologies and good practices and creating job opportunities.

Sri Lanka – Advancing Gender Mainstreaming in MLF Projects

Considering the low level of participation of women in RAC sector, the Sri Lanka NOU has been taking various measures to improve gender equality in MP activities. As part of this effort, during 2021, a variety of Ozone awareness activities were held across the stakeholders and communities.



A series of competitions were held on the World Ozone Day 2021 to raise awareness and widen engagement of different segments in the community.

Among 1,637 participants engaged in the competitions, there were 1,305 females, which is 80% of the total competitors.



In 2021, the NOU engaged with the Girl Guides Association of Sri Lanka and introduced the Ozone Friends' Badge to involve more girls. This encourages girls to join in the cooling business. This initiative is being continued in 2022 with an idea to develop the curriculum that members would follow to fulfil the requirements of achieving the 'Ozone Friends' National Badge. Badges will be awarded annually at National Ozone Day Celebrations.

These activities have resulted in improved participation of women in various awareness programs (more than 50%) as well as RAC training programs, which included 40% women participation.

The Director of the NOU presented the case studies and lessons learned at the UNDP Gender Webinars with the purpose of sharing and motivating others to promote gender equality in the MLF projects through local interventions.

Fiji & India – south-south cooperation and knowledge sharing



UNDP MPU helped organize a visit for delegates from Fiji to India in 2021. The India Ozone Cell welcomed Fiji delegation and facilitated meetings and site visits on technical trainings and industry processes. The visit gave Fiji a perspective on how the projects are implemented in India.

South-South cooperation between A5 countries are one of key factors in the success of the Montreal Protocol. UNEP's regional network has facilitated such coordination, but field visits can provide more specific observation and in-depth exchange.

Fiji has benefitted a lot through this exchange with India by sharing experiences on the challenges and lessons learnt in implementing similar projects. Retrofitting and recovery activities was one of the main

take backs. Technical knowledge within the government is critical. This was visible within the Ozone Cell team of India. It provided a comprehensive outlook on approaches of the Montreal Protocol projects that constantly require technical expertise. India has also provided its technical support to Fiji.

VII. ADMINISTRATIVE ISSUES (OPERATIONAL, POLICY, FINANCIAL, OTHER)

A. Meetings Attended by UNDP in 2021

The COVID-19 pandemic has continued to impose limitations on travel in 2021 and all meetings were held virtually.

B. Other Issues

None.

ANNEX 1: Virtual trainings organized in 2021

Virtual trainings 2021										
No. webinars	No. sessions	Month	Year	Region	Language	Title	Content	Time	Attendees/virtual training	% participation of women
UNDP: Montreal Protocol Unit										
1	2	March	2021	Latin America	Spanish	Analysis for the control of HFCs	To analyze how to record the imports and exports of HFCs and to analyze the sense of the phase-down process in terms of alternative selection, quota system and issuance and the flexibility for the implementation of the Kigali Amendment	120 min	43	67
2	2			The Caribbean	English				21	62
3	2	March	2021	Latin America	Spanish	Phase-out of HCFC-141b in polyurethane foams in Chile	To share Chile's experience during the HCFC-141b phase-out process as a blowing agent in polyurethane foams	120 min	61	57
4	2	April	2021	Latin America	Spanish	Complementary skills for training technicians in the RAC sector	To show the new tools and complementary skills that refrigeration and air conditioning technicians will require to carry out work for the handling, repair and maintenance of equipment in the sector	120 min	128	23
5	1	April	2021	Peru	Spanish	The Montreal Protocol and future international commitments	To understand the new challenges and opportunities that the Kigali Amendment will bring. Understand that alternative refrigerants and new technology provide the opportunity to be more efficient against HFCs.	60 min	82	Not data available
6	1	April	2021	Peru	Spanish	New technologies in the RAC sector and alternative refrigerants with low GWP	To present the technological alternatives available for the substitution of HCFCs, showing their advantages and disadvantages for the different subsectors of the RAC sector	60 min	75	Not data available
7	2	May	2021	Latin America	Spanish	To understand VRF systems, main characteristics, performance, applications, energy efficiency, installation and maintenance, refrigerants used, advantages and	Understand VRF systems, main characteristics, performance, applications, energy efficiency, installation and maintenance, refrigerants used, advantages and disadvantages in order to carry out a comparative analysis against chillers	120 min	74	20
8	2			The Caribbean	English				26	7

Virtual trainings 2021										
No. webinars	No. sessions	Month	Year	Region	Language	Title	Content	Time	Attendees/virtual training	% participation of women
						disadvantages in order to carry out a comparative analysis against chillers				
9	3	June	2021	Latin America	Spanish	Closing the loop: Environmental sound management of end-of-life ODS and HF	Present the experience and available alternatives for the environmentally sound management of ODS and HFCs	210 min	103	55
				The Caribbean	English				84	41
10	1	June	2021	Guyana	English	Addressing the Challenge of new Technologies and Energy Efficiency in the RAC Sector	To understand the new challenges and opportunities that the Kigali Amendment will bring. Understand that alternative refrigerants and new technology provide the opportunity to be more efficient against HFCs.	60 min	7	Not data available
11	1	August	2021	Latin America	Spanish	Mobile air conditioning sector (MAC)	To present the characteristics of MAC systems, alternative refrigerants to replace HFCs, technological change and safe handling of new refrigerants	60 min	50	26
	The Caribbean			English	54				15	
12	2	August	2021	Latin America	Spanish	Cold chain for food and vaccines	Understand food chain main characteristics and the importance of refrigeration to reduce food losses and understand the specific needs for refrigeration and cooling of vaccines (and COVID-19 vaccines in particular) in the distribution chain	120 min	34	28
	The Caribbean			English	14				6	
13	1	August	2021	Haiti	French	International experience for the management of a refrigerant Recovery, Recycling and Regeneration Center (RRC)	Share experience on the installation, operation of a RRC and a refrigerator collection center in Mexico	60 min	12	Not data available
14	1	September	2021	Haiti	Inglés	Food and Vaccine Cold Chain (Haiti)	To understand food chain main characteristics and the importance of refrigeration to reduce food losses and the specific needs for refrigeration and cooling of vaccines (and COVID-19 vaccines in particular) in the distribution chain	60 min	12	17

Virtual trainings 2021										
No. webinars	No. sessions	Month	Year	Region	Language	Title	Content	Time	Attendees/virtual training	% participation of women
15	2	September	2021	Latin America, the Caribbean and Asia	Spanish/English	Delivering Energy Efficient and Climate Friendly Cooling through National Cooling Action Plans (NCAPs) UNDP-PNUMA/Coll Coalition	The proposed workshop will bring together participants from Latin America and the Caribbean, linking them with the experts to discuss how to develop and implement National Cooling Action Plans including challenges, opportunities and solutions, and to identify short-term regional priority activities for implementation	180 min	174	39
16	1	October	2021	Latin America, the Caribbean and Asia	Spanish/English	Requirements for the Licensing and Quota System for HFCs to implement the Kigali amendment	To present and discuss the requirements and needs for the creation of a licensing and quota system for the implementation of the Kigali amendment	90 min	55	60
17	2	November	2021	Latin America and the Caribbean	Spanish/English	Refrigerated Transport	To know about the different applications of refrigerated transport and its importance within the cold chain. What types of equipment currently operate in refrigerated transport. To know the different refrigerants with low GWP that are used in the sector	120 min	19	42
18	1	November	2021	Latin America and the Caribbean	Spanish/English	Kigali HFC Implementation Plan (KIP): Guidelines and Recommendations	To inform on the requirements necessary for the preparation of a KIP, key points to consider, dates for submitting a KIP to ExCom, guidelines and recommendations for its design	60 min	26	69
19	1	December	2021	Latin America and the Caribbean	Spanish/English	HFC quota allowance system formulation	To present practical exercises on CO2eq quota allocation models. Discuss the advantages and disadvantages of each other	60 min	30	57

ANNEX 2: Tables related to the Performance Indicators

1. Performance Indicator 1: MYAs

Multi-year agreements submitted in 2021 are listed in the following table.

MLF Number
ANG/PHA/88/INV/23
BRA/PHA/88/INV/326
BZE/PHA/87/INV/40
COL/PHA/88/INV/111
COL/PHA/88/INV/114
CPR/PHA/88/INV/602
CPR/PHA/88/INV/604
DRC/PHA/88/INV/49
EGY/PHA/88/INV/152
ELS/PHA/87/INV/43
FIJ/PHA/88/INV/39
GEO/PHA/88/INV/44
GHA/PHA/87/INV/50
IDS/PHA/88/INV/217
MAL/PHA/88/INV/193
MOL/PHA/88/INV/45
NIR/PHA/88/INV/160
NIR/PHA/88/INV/162
NIR/PHA/88/INV/163
PAR/PHA/87/INV/43
TLS/PHA/88/INV/24

2. Performance Indicator 2: Individual Projects

The number of individual projects approved in 2021 are listed in the following table.

MLF Number
ANG/KIP/88/PRP/24
BGD/SEV/88/INS/56
BHU/KIP/87/PRP/29
BRA/PHA/88/PRP/330
CHI/KIP/88/PRP/207
CHI/SEV/87/INS/204
COL/KIP/87/PRP/110
COL/SEV/88/INS/115
COS/KIP/87/PRP/63
COS/SEV/88/INS/64

CUB/KIP/87/PRP/65
CUB/PHA/88/TAS/66
DOM/KIP/87/PRP/73
ELS/KIP/88/PRP/44
FIJ/KIP/88/PRP/41
GHA/KIP/87/PRP/51
GLO/SEV/88/TAS/360
GRN/KIP/88/PRP/28
IDS/PHA/87/PRP/216
IND/PHA/87/PRP/484
IND/PHA/87/PRP/485
IND/PHA/87/PRP/486
IND/PHA/87/PRP/487
IND/SEV/88/INS/491
IRA/PHA/87/PRP/254
IRA/PHA/87/PRP/256
KAM/KIP/88/PRP/40
KYR/KIP/87/PRP/45
LAO/KIP/87/PRP/39
LEB/KIP/87/PRP/98
MAL/PHA/87/PRP/189
MAL/SEV/88/INS/192
MDV/KIP/87/PRP/36
MEX/KIP/87/PRP/195
NIR/KIP/87/PRP/156
PAK/SEV/87/INS/108
PAN/KIP/87/PRP/53
PAR/KIP/87/PRP/42
PER/KIP/87/PRP/59
SRL/KIP/87/PRP/59
SWA/KIP/87/PRP/33
TRI/KIP/87/PRP/40
TRI/SEV/88/INS/41
URU/KIP/87/PRP/77
URU/SEV/88/INS/78

3. Performance Indicator 3: Funds disbursed

2021 Disbursements	\$ 24,520,669
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4. Performance Indicator 4: 2021 ODS phase-out

Country	Sector	ODP 2021 Adjusted
Approved MYAS		
Angola	Approved Multi-Year - HPMP Stage II	3.69
Brazil	Approved Multi-Year - HPMP Stage II	62.94
China	Approved Multi-Year - HPMP Stage II - ICR	182.43
China	Approved Multi-Year - HPMP Stage II - Solvent	44.51
Colombia	Approved Multi-Year - HPMP Stage II	6.02
Egypt	Approved Multi-Year - HPMP Stage II	7.93
Indonesia	Approved Multi-Year - HPMP Stage II	6.37
Malaysia	Approved Multi-Year - HPMP Stage II	3.69
Nigeria	Approved Multi-Year - HPMP Stage II	22.09
Timor Leste	Approved Multi-Year - HPMP Stage II	0.04
New MYAs		
Belize	HPMP Stage II - INV - Refrigeration Servicing	0.18
Fiji	HPMP Stage II - INV - Refrigeration Servicing	1.13
Georgia	HPMP Stage II - INV - Refrigeration Servicing	0.69
Ghana	HPMP Stage II - INV - Refrigeration Servicing	5.59
Paraguay	HPMP Stage II - INV - Refrigeration Servicing	0.7
Republic of Moldova	HPMP Stage III - INV - Refrigeration Servicing	0.09
Total		348.1

5. Performance Indicator 5: Projects completed in 2021.

The following 48 projects were completed in 2021.

MLF Number
ANG/PHA/84/TAS/22
ARM/PHA/86/INV/26
CHI/SEV/83/INS/198
COL/PHA/75/INV/98
COL/PHA/81/INV/102
COL/SEV/79/INS/101
COS/SEV/84/INS/62
CPR/PHA/77/INV/577
CPR/SEV/82/INS/596
CUB/PHA/85/TAS/63
CUB/SEV/81/TAS/57
DOM/PHA/82/INV/66

DOM/PHA/86/INV/70
ELS/PHA/79/TAS/36
ELS/PHA/86/INV/41
ELS/SEV/81/TAS/37
GEO/PHA/72/INV/35
GEO/PHA/81/INV/39
GEO/SEV/81/INS/40
GHA/PHA/84/INV/48
GLO/SEV/86/TAS/354
HAI/PHA/76/INV/22
HAI/SEV/84/TAS/23
IND/PHA/77/TAS/472
IND/PHA/82/INV/475
IND/SEV/84/INS/478
IRA/PHA/84/TAS/241
IRA/SEV/82/INS/231
JAM/PHA/76/INV/36
JAM/PHA/84/TAS/39
JAM/PHA/85/INV/41
KYR/PHA/85/INV/42
LEB/PHA/81/INV/93
LEB/PHA/81/TAS/92
LEB/SEV/82/INS/94
MAL/PHA/77/TAS/182
MAL/SEV/84/INS/188
MOL/PHA/86/INV/43
PAK/SEV/82/INS/98
PAN/PHA/76/INV/44
PAN/PHA/82/INV/48
PAN/PHA/85/TAS/51
PAN/SEV/80/INS/45
PAN/SEV/81/TAS/46
SRL/PHA/85/INV/54
TRI/PHA/86/INV/39
TRI/SEV/83/INS/37
URU/PHA/82/TAS/71

7. Performance Indicator 7: Final Revisions

Last year's database 62 projects, of which 43 should have been financially completed in 2021. This year's database counts 44 projects for which a final revision was issued in 2021.

8. Performance Indicator 8: PCRs

100% achieved (3 individual PCRs were due and submitted in 2021).

9. Performance Indicator 9

Progress Report produced on 22 August 2022 as required.