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COMITE EXECUTIF
DU FONDS MULTILATERAL AUX FINS
D'APPLICATION DU PROTOCOLE DE MONTREAL
Quatre-vingt-deuxième réunion
Montréal, 3 – 7 décembre 2018

**RAPPORT PÉRIODIQUE DU PNUD
AU 31 DÉCEMBRE 2017**

1. Le présent document comporte le rapport périodique du PNUD au 31 décembre 2017¹.

Portée du document

2. Le présent document renferme les parties suivantes :

Partie I : Projets approuvés en vertu des contributions ordinaires au Fonds multilatéral. Cette partie récapitule l'état d'avancement des projets pour 2017 et les progrès cumulatifs depuis 1991; elle examine l'état d'avancement de chaque projet ² au niveau des pays; elle établit les projets présentant des retards dans la mise en œuvre et l'incidence potentielle sur l'élimination des substances réglementées, ainsi que les projets comportant des questions en suspens qui seront examinées par le Comité exécutif.

Partie II : Projets approuvés au titre des contributions volontaires supplémentaires pour les activités relatives aux HFC, et état d'avancement.

Recommandation générale.

¹ Le rapport périodique est joint au présent document. Les données ont été intégrées dans la base de données du rapport périodique consolidé qui est disponible sur demande.

² Les projets en cours sont tous les projets qui étaient en cours d'exécution le 31 décembre 2017. Les principaux indicateurs de progrès sont les suivants : pourcentage de fonds décaissés et pourcentage de projet ayant commencé à décaisser des fonds ; financement devant être décaissé d'ici la fin de l'année en pourcentage du financement approuvé ; temps moyen des retards prévus dans la mise en œuvre ; et renseignements consignés à la colonne Remarques dans la base de données de rapport périodique.

3. Le présent document renferme également les annexes suivantes :

Annexe I : État sommaire et recommandation pour chaque projet en cours comportant des questions en suspens qui seront examinées par le Comité exécutif.

Annexe II : Analyse du rapport périodique.

PARTIE I : PROJETS APPROUVÉS AU TITRE DES CONTRIBUTIONS ORDINAIRES AU FONDS MULTILATÉRAL

Sommaire de l'état d'avancement des projets pour 2017 et des progrès cumulatifs

4. La mise en œuvre des projets et des activités par le PNUD pour 2017 et les progrès cumulatifs depuis 1991 jusqu'au 31 décembre 2017 sont récapitulés comme suit :

- a) **Élimination** : en 2017, 325,3 tonnes PAO de consommation de HCFC ont été éliminées, et 88,7 tonnes PAO supplémentaires de consommation de HCFC ont été approuvées aux fins d'élimination. Depuis 1991, 66 765 tonnes PAO de consommation de SAO ont été éliminées, sur un total prévu de 67 526 tonnes PAO liées aux projets approuvés (excluant les projets annulés et transférés) ;
- b) **Décaissements/approbations** : en 2017, 30,71 millions \$US ont été décaissés et 31,3 millions \$US ont été prévus pour décaissement selon le rapport périodique de 2016, correspondant à un taux de décaissement de 98 % par rapport aux prévisions. Cumulativement, 704,29 millions \$US ont été décaissés, sur le total de 782,35 millions \$US approuvés pour décaissement (excluant les coûts d'appui d'agence). Cela représente un taux de décaissement de 90 %. En 2017, 30,73 millions \$US ont été approuvés pour la mise en œuvre de projets ;
- c) **Coût-efficacité (en PAO)** : depuis 1991, le rapport coût-efficacité moyen des projets d'investissement approuvés entraînant une réduction permanente de la consommation est de 10,20/kg \$US. Le rapport coût-efficacité moyen des projets d'investissement par tonne PAO est de 8,49/kg \$US pour les projets achevés et de 96,77/kg \$US pour les projets en cours³;
- d) **Nombre de projets achevés** : en 2017, 85 projets ont été achevés. Depuis 1991, sur les 2 377 projets approuvés (excluant les projets clos ou transférés), 2 231 projets ont été achevés. Cela représente un taux d'achèvement de 94 % ;
- e) **Vitesse d'exécution – projets d'investissement** : les projets achevés en 2017 ont été terminés en moyenne 39 mois après leur approbation. Depuis 1991, la durée moyenne d'exécution des projets d'investissement a été de 33 mois après leur approbation. Les premiers décaissements ont commencé en moyenne 13 mois après leur approbation.
- f) **Vitesse d'exécution – projets ne portant pas sur des investissements** : les projets achevés en 2017 ont été terminés en moyenne 36 mois après leur approbation. Depuis 1991, la durée moyenne d'exécution des projets ne portant pas sur des investissements a été de 40 mois après leur approbation. Les premiers décaissements ont commencé en moyenne 13 mois après leur approbation ;

³ La valeur plus élevée pour les projets en cours est en grande partie attribuable aux valeurs PAO plus faibles des HCFC, mais également aux méthodes employées par les agences pour ventiler l'élimination.

- g) **Préparation de projet** : sur les 520 activités de préparation de projet approuvées à la fin de 2017, 505 ont été achevés. En 2017, 22 projets ont été achevés, laissant ainsi 15 projets en cours ;
- h) **Retards dans la mise en œuvre** : en tout, 74 projets d'investissement étaient en cours la fin de 2017. Ces projets ont connu en moyenne un retard de 20 mois. Il n'y avait toutefois aucun projet classé comme « projet ayant un retard dans la mise en œuvre » assujéti aux procédures d'annulation (puisque les accords pluriannuels et les activités de renforcement des institutions ne sont pas soumis à de telles procédures) ;
- i) **Accords pluriannuels** : en 2017, le PNUD assurait la mise en œuvre de 54 accords pluriannuels pour les plans de gestion de l'élimination des HCFC. Depuis 1991, 134 accords pluriannuels ont été approuvés, dont 80 sont maintenant achevés.

État d'avancement des projets en 2017

5. Le Secrétariat a examiné l'état d'avancement de la mise en œuvre des projets pays par pays, en tenant compte du retard enregistré en 2017 par rapport aux dates d'achèvement prévues, des incidences potentielles de ces retards sur l'élimination et du taux de décaissement prévu.

6. Sur les 106 projets en cours, à l'exception des activités de renforcement des institutions et de préparation de projet, 84 projets ont reporté leur date prévue d'achèvement depuis le rapport périodique de 2016.

7. Au cours de l'examen du rapport périodique, le Secrétariat a eu plusieurs discussions avec le PNUD, au cours desquelles un certain nombre de points concernant les projets en cours ont été élucidés. Toutefois, d'autres questions n'ont pu être résolues en rapport avec ces projets ou tranches d'accords pluriannuels concernant les HCFC, les activités de préparation de projet et le renouvellement des projets de renforcement des institutions, comme on peut le voir à l'annexe I du présent document. Pour chaque projet en cours, on présente une brève description de l'état d'avancement et des points en suspens et on propose une recommandation à l'attention du Comité exécutif.

8. Les points soulevés relativement aux projets suivants sont examinés dans les sections correspondantes des rapports sur les projets comportant des exigences particulières en matière de communication des données :⁴ phase I du PGEH pour le Bangladesh (première tranche) (BGD/PHA/65/INV/40), projet de démonstration concernant le rendement de la technologie sans HCFC à faible potentiel de réchauffement de la planète dans les applications de climatisation (capacité supérieure à 8 TR) au Koweït (KUW/REF/76/DEM/32), et phase II du PGEH pour la République bolivarienne du Venezuela (phase II, première tranche) (secteur des mousses) (VEN/PHA/76/INV/33).

⁴ UNEP/OzL.Pro/ExCom/82/20

PARTIE II : PROJETS APPROUVÉS AU TITRE DES CONTRIBUTIONS VOLONTAIRES SUPPLÉMENTAIRES POUR LES ACTIVITÉS RELATIVES AUX HFC

9. En 2017, le Comité exécutif a approuvé 16 projets relatifs aux HFC au titre des contributions volontaires supplémentaires, pour un montant s'élevant à 4 729 610 \$US (excluant les coûts d'appui d'agence). Le tableau 1 récapitule l'état d'avancement de ces projets.

Tableau 1. Projets relatifs aux HFC approuvés en 2017

Type	Nombre de projets			Financement (\$US)*			
	Approuvés	Achevés	% achevés	Approuvé	Décaissé	Solde	% décaissé
Investissement	1	0	0	3 131 610	0	3 131 610	0
Préparation de projet	5	0	0	150 000	0	150 000	0
Assistance technique - activités de facilitation	10	0	0	1 448 000	0	1 448 000	0
Total	16	0	0	4 729 610	0	4 729 610	0

* Exclut les coûts d'appui d'agence.

Recommandation générale

10. Le Comité exécutif pourrait souhaiter :

- a) Prendre note du rapport périodique du PNUD au 31 décembre 2017 figurant dans le document UNEP/OzL.Pro/ExCom/82/16 ;
- b) Approuver les recommandations relatives aux projets en cours comportant des questions en suspens figurant à l'annexe I du présent document.

Annexe I

PROJETS EN COURS COMPORTANT DES QUESTIONS EN SUSPENS DANS LE RAPPORT PÉRIODIQUE DU PNUD

Pays/code de projet	Titre du projet	Taux de décaissement (%)	État/Questions	Recommandation
Arménie ARM/PHA/77/INV/18	Plan de gestion de l'élimination des HCFC (phase II, première tranche)	2	Faible décaissement; le processus d'acquisition de l'équipement en est à la phase de signature du contrat et cela devrait accroître le taux de décaissement	Demander de présenter un rapport de situation à la 83 ^e réunion sur le niveau de décaissement
Chili CHI/PHA/73/INV/184	Plan de gestion de l'élimination des HCFC (phase I, troisième tranche)	3	La date d'achèvement du projet est décembre 2017 selon la décision qui a été prise	Demander l'annulation du projet et le retour des soldes restants à la 82 ^e réunion
Cuba CUB/REF/58/PRP/42	Préparation des activités d'investissement dans l'élimination des HCFC (secteur de la fabrication)	0	L'entreprise a indiqué qu'elle n'adopterait pas de technologie à faible potentiel de réchauffement de la planète	Demander l'annulation du projet et le retour des soldes restants à la 82 ^e réunion
République démocratique du Congo DRC/PHA/79/PRP/42	Préparation d'un plan de gestion de l'élimination des HCFC (phase II)	0	Faible décaissement et lenteur au niveau de la préparation du projet; à l'heure actuelle, on propose de présenter, en coordination avec le PNUE, la phase II à la 83 ^e réunion	Demander de présenter un rapport de situation à la 83 ^e réunion sur le niveau de décaissement, en soulignant que l'on propose de soumettre la phase II à la 83 ^e réunion
Haïti HAI/PHA/76/INV/22	Plan de gestion de l'élimination des HCFC (phase I, deuxième tranche)	0	Faible taux de décaissement en raison d'un retard dans la finalisation de l'accord	Demander : a) de présenter un rapport de situation à la 83 ^e réunion sur le niveau de décaissement et la finalisation de l'accord; et b) au PAC du PNUE d'aider à la mise en œuvre accélérée des activités de projet
Inde IND/SEV/76/INS/467	Prolongement du projet de renforcement des institutions (phase X : 4/2016-3/2018)	0	Faible taux de décaissement des fonds approuvés en raison d'un retard dans la signature du document de projet	Demander de présenter un rapport de situation à la 83 ^e réunion sur le niveau de décaissement et la signature du document de projet
République islamique d'Iran IRA/PHA/77/INV/226	Plan de gestion de l'élimination des HCFC (phase II, première tranche) (secteur des mousses)	0	Faible taux de décaissement en raison de la situation politique et économique touchant le transfert de technologie et les virements de fonds	Demander de présenter un rapport de situation à la 83 ^e réunion sur le niveau de décaissement

Pays/code de projet	Titre du projet	Taux de décaissement (%)	État/Questions	Recommandation
Nigéria NIR/PHA/75/INV/143	Plan de gestion de l'élimination des HCFC (phase I, cinquième tranche) (secteur des mousses et entretien de l'équipement de réfrigération)	0	Faible décaissement et lenteur au niveau de la mise en œuvre; prolongement du projet jusqu'en décembre 2018, approbation lors de la 80 ^e réunion	Demander de présenter un rapport de situation à la 83 ^e réunion sur le niveau de décaissement, en soulignant que le projet devrait être achevé d'ici décembre 2018
Saint-Kitts-et-Nevis STK/PHA/64/TAS/16	Plan de gestion de l'élimination des HCFC (phase I, première tranche)	0	Faible décaissement et lenteur au niveau de l'approbation des activités; la spécification de l'équipement a été approuvée par le bureau de l'ozone	Demander : a) de présenter un rapport de situation à la 83 ^e réunion sur le faible taux de décaissement des fonds approuvés, en indiquant que l'acquisition de l'équipement a commencé; et b) au PAC du PNUE d'aider à la mise en œuvre accélérée des activités de projet

Annexe II

ANALYSE DU RAPPORT PÉRIODIQUE DU PNUD AU 31 DÉCEMBRE 2017

1. La présente annexe renferme les deux parties suivantes :

Partie I : Projets approuvés au titre des contributions ordinaires au Fonds multilatéral.

Partie II : Projets approuvés au titre des contributions volontaires supplémentaires pour les activités relatives aux HFC.

PARTIE I : PROJETS APPROUVÉS AU TITRE DES CONTRIBUTIONS ORDINAIRES AU FONDS MULTILATÉRAL

2. Au 31 décembre 2017, le Comité exécutif avait approuvé 888,01 millions \$US, comprenant 782,35 millions \$US pour la mise en œuvre des projets d'investissement et des projets ne portant pas sur des investissements et 105,66 millions \$US pour les coûts d'appui d'agence, comme on peut le voir au tableau 1. En 2017, 28 nouveaux projets et activités ont été approuvés. Ce financement devrait permettre d'éliminer 67 526 tonnes PAO de consommation de SAO.

Tableau 1 : Financement approuvé pour le PNUD par secteur au 31 décembre 2017

Secteur	Financement (\$US)
Aérosols	26 054 838
Destruction	3 607 085
Lutte contre l'incendie	50 000
Mousses	173 568 025
Halon	4 996 975
Fumigènes	20 081 243
Plan d'élimination	292 035 855
Agent de transformation	1 286 923
Production	1 056 000
Réfrigération	137 487 947
Plusieurs secteurs	58 007 316
Solvants	63 699 998
Stérilisants	417 628
Sous-total	782 349 834
Coûts d'appui d'agence	105 664 706
Total	888 014 540

3. Le tableau 2 récapitule l'état d'avancement des projets, par catégorie.

Tableau 2 : État d'avancement des projets par catégorie

Type	Nombre de projets*			Financement (\$US)**			
	Approuvés	Achevés	% achevés	Approuvé	Décaissé	Solde	% décaissé
Programme de pays	22	22	100	1 628 797	1 628 797	0	100
Démonstration	43	35	81	22 205 198	19 544 729	2 660 470	88
Renforcement des institutions	228	203	89	48 234 446	42 415 092	5 819 355	88
Investissement	1 243	1 169	94	644 723 109	582 576 205	62 146 903	90
Préparation de projet	520	505	97	21 891 173	21 171 761	719 413	97
Assistance technique	293	269	92	42 076 621	35 363 830	6 712 791	84
Formation	28	28	100	1 590 489	1 590 489	0	100
Total	2 377	2 231	94	782 349 834	704 290 902	78 058 931	90

*Exclut les projets clos et transférés.

**Exclut les coûts d'appui d'agence.

4. Le tableau 3 présente un aperçu de l'état d'avancement des projets par année⁵. Tous les projets et activités approuvés de 1991 à 2008 sont maintenant achevés.

Tableau 3 : État d'avancement des projets par année

Année	Nombre de projets*			Financement (SUS)**			
	Approuvés	Achevés	% achevés	Approuvé	Décaissé	Solde	% décaissé
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	49 481 580	49 481 581	-1	100
1995	117	117	100	29 599 445	29 599 446	-1	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	35 896 883	35 896 884	-1	100
2000	149	149	100	31 268 362	31 268 361	1	100
2001	179	179	100	35 292 272	35 292 271	1	100
2002	117	117	100	44 316 424	44 316 422	2	100
2003	64	64	100	36 336 530	36 336 530	0	100
2004	69	69	100	24 802 715	24 802 714	1	100
2005	53	53	100	29 125 258	29 124 834	425	100
2006	62	62	100	15 753 458	15 753 461	-3	100
2007	54	54	100	12 142 488	12 142 486	2	100
2008	84	84	100	22 873 866	22 873 865	0	100
2009	93	91	98	13 283 556	13 188 578	94 978	99
2010	43	42	98	19 735 825	19 597 909	137 915	99
2011	63	59	94	57 454 510	56 404 467	1 050 043	98
2012	29	25	86	33 933 810	32 282 762	1 651 048	95
2013	43	34	79	34 573 667	31 538 959	3 034 708	91
2014	67	52	78	22 987 400	20 215 699	2 771 701	88
2015	75	39	52	33 705 450	20 955 060	12 750 390	62
2016	54	4	7	42 878 670	16 899 307	25 979 363	39
2017	28	3	11	30 734 847	146 488	30 588 359	0
Total	2 377	2 231	94	782 349 834	704 290 902	78 058 931	90

*Exclut les projets clos et transférés.

**Exclut les coûts d'appui d'agence.

⁵ Les données sont présentées selon l'année au cours de laquelle un projet a été approuvé par le Comité exécutif. Toutes les approbations sont considérées également, qu'il s'agisse de projets d'investissement ou d'autres projets (un projet d'investissement ou une tranche de financement d'un projet pluriannuel de 1 million \$ US est considéré comme un projet, tout comme la préparation d'un projet national de 30 000 \$ US). Les indicateurs clés de ce sommaire annuel sont : le pourcentage de projets achevés, les tonnes PAO éliminées, et le pourcentage de fonds décaissés. Il y a trois types de décaissements : pendant la mise en oeuvre, après la mise en oeuvre et pour la mise en oeuvre de projets financés rétroactivement.

5. Le tableau 4 présente l'état d'avancement des projets par pays pour 2017.

Tableau 4. Sommaire des projets mis en œuvre par le PNUD en 2017

Pays	Élimination en 2017	Pourcentage d'élimination prévue obtenue en 2017	Estimation des fonds décaissés en 2017 (\$US)	Fonds décaissés en 2017 (\$US)	Pourcentage de fonds décaissés dépassant l'estimation en 2017	Pourcentage de projets prévus achevés en 2017
Angola	1,6		35 896	123 112	343	100
Argentine	0,0		176 343	136 116	77	50
Arménie	0,0		60 810	2 590	4	67
Bangladesh	0,6	100	146 850	94 780	65	33
Barbades	0,0		20 000	3 198	16	100
Belize	0,2		0	0		
Bhoutan	0,0	0	23 430	21 895	93	0
Brésil	34,5	23	4 353 639	3 272 502	75	25
Brunei Darussalam	0,0		9 840	0	0	0
Cambodge	0,6	100	40 000	50 000	125	50
Chili	2,6	13	750 643	809 216	108	40
Chine	82,2	53	7 228 303	13 986 970	194	50
Colombie	0,0	0	1 387 429	1 101 004	79	0
République démocratique du Congo	1,8	100	8 665	21 651	250	100
Costa Rica	1,4	100	330 780	646 322	195	67
Cuba	0,0		313 826	221 030	70	29
République dominicaine	0,0		241 797	405 468	168	75
Égypte	23,0	57	1 293 623	932 133	72	40
El Salvador	0,0	0	57 408	72 207	126	50
Fidji	0,0	0	27 350	7 036	26	50
Géorgie	0,0	0	51 473	69 426	135	67
Ghana	7,7	100	172 205	247 208	144	33
Guyane	0,0	0	59 720	23 730	40	0
Haïti	0,0	0	38 848	0	0	0
Inde	75,0	35	5 536 497	2 380 888	43	41
Indonésie	18,9	68	1 430 078	552 597	39	56
République islamique d'Iran	0,0	0	735 507	472 600	64	14
Jamaïque	3,8		64 527	53 261	83	0
Koweït	0,0		125 200	0	0	100
Kirghizistan	0,0	0	65 983	94 299	143	50
Liban	12,4	0	935 684	1 598 644	171	33
Malaisie	16,5	16	2 174 854	1 323 868	61	38
Maldives	0,0		126 505	21 448	17	50
Mali	0,0	0	42 243	0	0	0
Mexique	24,8	35	1 092 219	294 138	27	0
République de Moldavie	0,0	0	46 632	1	0	80
Népal	0,0	0	27 040	10 000	37	0
Nigéria	8,0	14	495 827	408 503	82	14
Pakistan	0,0		300 869	104 731	35	33

Pays	Élimination en 2017	Pourcentage d'élimination prévue obtenue en 2017	Estimation des fonds décaissés en 2017 (\$US)	Fonds décaissés en 2017 (\$US)	Pourcentage de fonds décaissés dépassant l'estimation en 2017	Pourcentage de projets prévus achevés en 2017
Panama	0,0	0	232 693	163 130	70	25
Paraguay	0,0	0	66 931	66 786	100	50
Pérou	2,2	100	75 899	131 663	173	100
Saint-Kitts-et-Nevis	0,0	0	16 000	0	0	0
Sri Lanka	1,4	56	131 232	116 937	89	40
Timor-Leste	0,0		16 000	0	0	50
Trinité-et-Tobago	4,2		230 665	261 196	113	67
Uruguay	1,9	0	199 281	197 617	99	40
République bolivarienne du Venezuela	0,0	0	298 439	209 561	70	33
Échelle mondiale	0,0		0	0		100
Total général	325,3	31	31 295 683	30 709 461	98	42

PARTIE II : PROJETS APPROUVÉS AU TITRE DES CONTRIBUTIONS VOLONTAIRES SUPPLÉMENTAIRES POUR LES ACTIVITÉS RELATIVES AUX HFC

6. En 2017, le Comité exécutif avait approuvé 16 projets relatifs aux HFC au titre des contributions volontaires supplémentaires, pour un montant s'élevant à 4 729 610 \$US (excluant des coûts d'appui d'agence). Le tableau 5 récapitule l'état d'avancement de ces projets.

Tableau 5. Projets relatifs aux HFC approuvés en 2017

Type	Nombre de projets*			Financement (\$US)**			
	Approuvés	Achevés	% achevés	Approuvé	Décaissé	Solde	% décaissé
Investissement	1	0	0	3 131 610	0	3 131 610	0
Préparation de projet	5	0	0	150 000	0	150 000	0
Assistance technique – activités de facilitation	10	0	0	1 448 000	0	1 448 000	0
Total	16	0	0	4 729 610	0	4 729 610	0

* Exclut les coûts d'appui d'agence.



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

UNDP Annual Progress and Financial Report Narrative: 1991-2017

82nd Meeting, 3 – 7 December 2018, Montreal, Canada

I. INTRODUCTION

The following narrative is based on a database of 2,393 projects funded by the Multilateral Fund, which contains basic information on their status of implementation as of 31 December 2017. However, some updates of activities which took place during 2018 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\$ 704,286,959 of the US\$ 787,207,936 worth of projects that were approved under the Multilateral Fund since its inception in 1991. These programmes were supposed to eliminate 67,466 ODP T/year, of which 66,751 (99%) were phased out as of 31 December 2017. 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 2017, UNDP was active in 47 countries, of which 24 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). For these, UNDP is the lead agency in 29 countries. In addition, UNDP also acts as the cooperating agency for 18 countries. There is a surge of workload for UNDP to meet the needs of so many HPMPs that are currently under implementation. This significant workload comes at a time that preparation of Stage II HPMPs is under way. Most countries, for which UNDP is the lead agency, have submitted their requests for Stage II HPMP full proposals in 2015/2016 and only one country (Democratic Republic of Congo) is expected to submit its request after 2017. 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 also 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 additional projects to demonstrate climate-friendly and energy-efficient alternative technologies to HCFCs, and feasibility studies on district cooling. UNDP has received approval for eight demonstration projects in seven countries. In addition, UNDP is also exploring demonstration projects for cost-effective alternatives to HFCs that minimize environmental impacts. Pursuant to ExCom decision 78/3(g), UNDP is preparing investment/demonstration projects to phase down HFCs and has received approval for three HFC technology demonstration projects in Bangladesh, Dominican Republic, and Mexico and has received preparatory funding for four other countries.

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 2017, UNDP had a total of 2488 approved projects under the Multilateral Fund, of which 95 had been canceled or transferred. Of the remaining projects, 2,227, or 93% have been completed. They are set to eliminate 67,466 ODP T/year, of which 66,751 ODP T (99%) have already been eliminated.

As of 31 December 2017, UNDP had received cumulative net project approvals of US\$ 787,207,936 (excluding support costs). Of these, UNDP, as of end-2017, had disbursed US\$ 704,286,959 excluding all obligations. This translates to 89% of approved funding. Furthermore, an additional US\$ 557,166 of obligations were outstanding as of end-December 2017, representing orders placed but final payments not yet made

B. Interest and Adjustments

Interest income earned on MLF resources in 2017 is US\$ 1,034,258. Once the financial statements are submitted to the MLF Treasurer by the agreed deadline of 30 September, the difference between the provisional and final 2017 interest income can be adjusted against UNDP project approvals in 2018.

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% of the budgets were dedicated to investment projects, 5.2% to technical assistance projects, 6% to institutional strengthening and 3.5% to project preparation activities. The remaining 3% was dedicated to country programmes and demonstration/training activities.

III. GLOBAL AND REGIONAL PROJECT HIGHLIGHTS

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

GLO/SEV/80/TAS/343, the Core unit support (2018) programme approved at the 80th 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 programmer is critical.

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

IV. PERFORMANCE INDICATORS

A. Results in 2017

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 V of the report of the 77th meeting of the Executive Committee contained UNDP's 2017 targets. One can see from the table below that UNDP fully met 5 out of 9 of its targets and that its score amounts to 90%.

Category of performance indicator	Item	Weight	UNDP's target for 2017	Result achieved in 2017	Score
1. Approval	Number of tranches approved vs. those planned*	10	23	16 → 70% (see annex 2, 1)	6.9
2. Approval	Number of projects/activities approved vs. those planned (including project preparation activities)**	10	15	11 → 73% (see annex 2, 2)	7.3
3. Implementation	Funds disbursed	15	\$27,839,943	\$30,454,624 → 100% (see annex 2, 3)	15.0
4. Implementation	ODS phase-out for the tranche when the next tranche is approved vs. those planned per business plans	25	186.04	155.4 → 84% (see annex 2, 4)	20.9
5. Implementation	Project completion vs. planned in progress reports for all activities (excluding project preparation)	20	62	63 → 100% (see annex 2, 5)	20.0
6. Administrative	The extent to which projects are financially completed 12 months after project completion	10	70% of those due (out of 51, so target is 36)	36 finrevs out of 100% (see annex 2, 7)	10.0
7. Administrative	Timely submission of project completion reports vs. those agreed	5	70% of those due (out of 8, so target is 6)	100% achieved (7 individual PCRs submitted out of 7 planned and 1 MYA PCR submitted out of 1 planned -- see annex 2, 8)	5.0
8. Administrative	Timely submission of progress reports and responses unless otherwise agreed	5	On-time	100% achieved (see annex 2, 9)	5.0
TOTAL		100			90.1

*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 indicator on MYA tranches: As per our 2017 Business Plan, UNDP submitted the Nigeria Stage II HPMP tranche to the 80th meeting but was requested by the MLF Secretariat to withdraw the project. As we submitted this tranche in 2017 as we had planned, this should be included in the assessment against our performance target.

B. Cumulative completed investment projects (Table 4)

As Table 4: Cumulative completed investment projects shows, a total of 1,165 investment projects have been completed, with a corresponding elimination of 61,335 ODP T. Of the US\$ 516,960,307 in their approved budgets in the sectors of Foam, Refrigeration, Phase-out Plan, Aerosol, Solvents, Fumigants, Halon, Process Agents, and Sterilants, 100% has already been disbursed. It took an average of 13 months from approval to first disbursement and 33 months from approval to completion. The overall cost-effectiveness of the projects to the Fund was \$7.56 /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 557 non-investment projects excluding project preparation assistance. Of the US\$ 95,254,269 in their approved budgets, 99% has been disbursed. It took an average of 13 months from approval to first disbursement and 40 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 79 ongoing investment projects in the sectors of Phase-out Plans, Foam Aerosol, and Fumigants with corresponding budgets of US\$ 124,449,861. Of this amount, 49% has already been disbursed. It takes an average of 10 months from approval to first disbursement and an average of 45 months from approval to the estimated project completion. The overall cost-effectiveness of the projects to the Fund was \$65.37 /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 67 ongoing non-investment projects excluding project preparation assistance. Of the US\$ 21,474,517 in approved budgets, 26% has been disbursed. It takes an average of 9 months from approval to first disbursement and 36 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. There were no specific issues related to this in 2014.

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 20 PRP projects listed with US\$ 1,012,143 in associated approvals, 47% has been disbursed.

VI. DESCRIPTION OF KEY ONGOING ACTIVITIES

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

- A. Technology demonstration projects for HCFCs
- B. Technology demonstration projects for HFCs
- C. ODS destruction demonstration projects
- D. Country Highlights

A. **Technology demonstration projects for HCFCs**

UNDP has been at the forefront of developing and implementing demonstration projects in various regions and sectors to assess relatively new technological developments for which little or no experience or data exists on technical performance and costs since 1996. The major objectives of such types of demonstrations

were to find alternative solutions and cost-saving methods to the Multilateral Fund for the Implementation of the Montreal Protocol in order to carry out HCFC-investment activities in the future years, bearing in mind the impact on the climate. The results of the demonstrations of emerging technologies in various industrial processes under local conditions in the following countries are described below:

A1. Demonstrations related to Stage I HPMPs

Brazil and Mexico

Pilot projects for the assessment of alternative technologies in PU Foam Applications were approved in Brazil and Mexico to develop, optimize and assess the use of methyl formate and methylal as blowing agents in PU applications. As a result of the demonstration projects, methyl formate was selected as an alternative technology in Egypt, Mexico, Nigeria, Brazil, Jamaica, Trinidad and Tobago, Cameroon, and some other countries. System houses in both Mexico and Brazil have adopted methylal technology in their HPMPs as a result of the successful pilot project.

China

Foam Sector

The Executive Committee approved a demonstration project to convert HCFC-22/HCFC-142b technology to CO₂ with methyl formate co-blowing technology in the manufacture of extruded polystyrene foam at Feininger (Nanjing) Energy Saving Technology Co. Ltd. It can be concluded that the CO₂ and methyl formate formulation tested can be applied to XPS manufacturing given that thermal conductivity, compression strength and limited oxygen index are acceptable. It was also determined that using methyl formate as the co-blowing agent of CO₂ had no significant influence on the processing process of XPS board.

Refrigeration and Air Conditioning

- Demonstration project for conversion from HCFC-22 to HFC-32 in the manufacture of commercial air-source chillers/heat pumps at Tsinghua Tong Fang Artificial Environment Co. Ltd.: The project is the first in China to adopt HFC-32 in place of HCFC-22 in the production of small-sized commercial air-source chillers/heat pumps. The demonstration project has directly led to the use of HFC-32 as a major alternative to HCFC-22 in the industrial and commercial refrigeration sector plan of stage I of the HPMP for China. Further conversion activities to HFC-32 technology have been approved for the HPMP in Indonesia, Algeria and Thailand.
- Demonstration project for conversion from HCFC-22 technology to ammonia/CO₂ technology in the manufacture of two-stage refrigeration systems for cold storage and freezing applications at Yantai Moon Group Co. Ltd: The capacity of the production line has been converted to use substitute refrigerants and is capable of manufacture the converted products. The project has passed the national acceptance verification. The converted products have been put into use by users in Yantai, Weihai and Dalian. The market has expressed interest. The technology route is innovative, the resulting product has significant advantages in terms of environment friendliness and energy efficiency, and the safety performance is greatly improved.

Solvents

The Executive Committee approved a demonstration project for conversion from HCFC-141b based technology to iso-paraffin and siloxane (KC-6) technology for cleaning in the manufacture of medical devices at Zhejiang Kindly Medical Devices Co. Ltd. The project carried out an assessment of more than 15 solvents widely used in the medical devices sector globally. The project tested the use of KC-6 as an alternative to HCFC-141b. With necessary equipment modifications for needle assembly lines and silicification tooling

cleaning line KC-3 presents itself as a viable alternative to HCFC-141b for cleaning in the manufacture of medical devices.

Colombia

The Executive Committee approved the assessment project for supercritical CO₂ technology in the manufacture of sprayed polyurethane rigid foams in Colombia. The project was designed to evaluate in developing countries the performance of super-critical CO₂, a relatively new technology currently used in Japan for polyurethane (PU) spray rigid foam. Results from this project showed that supercritical CO₂ technology is a non-flammable, zero ODP and low GWP technology and it shouldn't create any additional industrial hygiene and safety hazards for the use as a replacement for HCFC-141b technology.

Egypt

Low cost options for the use of Hydrocarbons (HC) as foaming agents in the manufacture of PU Foam were considered as part of a demonstration project in Egypt. The objective of this project was to develop, optimize, and disseminate low-cost systems for the use of hydrocarbons in the manufacture of PU rigid insulation and integral skin foams. Both options that are emerging from the project—pre-blended cyclopentane systems and direct HC injection—have been selected for ODS phase-out projects in Brazil and Egypt. The findings of the demonstration project show that further mixing head optimization would be beneficial and might enhance the foam densities and reduce operational costs. This optimization was finalized at a system house in Egypt with the complementary report with additional findings submitted in 2015.

Nigeria

The hydrocarbon production demonstration project, being implemented at Pamaque Ltd as part of the HPMP in Nigeria (Stage 1), has been completed in its pilot phase in 2015, and the pilot plant commissioned on 19 November 2015. The establishment of the distillation and bottling unit has proved to be functional and safe. The commercial production is linked to private sector's further involvement and investment and work and consultations are still ongoing in this regard. Replication abroad is also being considered. A side event on the project was organized by UNDP and the Government of Nigeria at the 27th MOP in Dubai (1-5 November 2015) and a final report of this pilot demonstration project was submitted as an Annex to the request for the 5th tranche of the first stage of the HPMP, approved at the 75th ExCom Meeting.

Turkey

A pilot project validating the use of HFO-1234ze as Blowing Agent in the Manufacture of Extruded Polystyrene (XPS) Foam Boardstock in Turkey was designed to assess the use of HFO-1234ze in a developing country context. All planned production trials have been completed in 2011 and early 2012 and a final assessment was submitted to the 67th ExCom. The current findings show that there is a need for further trials as this will help obtain better assessment of the feasibility of the technology for developing countries. Unfortunately, funding for these additional activities was not approved so that no final conclusions about the technical feasibility of this technology could be arrived at.

A2. Demonstrations related to Stage II HPMPs

Pursuant to ExCom decision 72/40, UNDP is preparing additional projects to demonstrate climate-friendly and energy-efficient alternative technologies to HCFCs, and feasibility studies on district cooling. UNDP has prepared and received approval for eight demonstration projects for the following seven countries. Please see brief updates on the status of these projects.

- **China:** demonstrating ammonia semi-hermetic frequency convertible screw refrigeration compression unit in the industrial and commercial refrigeration industry.

In order to produce the small discharge semi-hermetic frequency convertible screw refrigeration compression unit with ammonia as a viable replacement for HCFC-22 technology, the Executive Committee approved a demonstration project at its 76th meeting. Project demonstration activities ongoing in 2017. However, demonstration results will take longer than expected to be completed. As per ExCom Decision 80/26, project completion was extended to June 2018.

The demonstration project was eventually completed and passed national acceptance in May 2018. The small redesigned demonstration system with lower NH₃ charging amount and constructed to fit the small discharge semi-hermetic frequency convertible screw refrigeration compression unit has been built in two locations in China. The one at Xiamen Taiqu cold storage began operation in March 2017 and has been running safely for one and half year. The one at Chengdu Taiqu cold storage began operation in June 2017 and has been running safely for one year.

- **Colombia:** Demonstration of HC-290 (propane) as an alternative refrigerant in commercial air-conditioning manufacturing at Industrias Thermotar Ltda.

The demonstration project at Thermotar was completed successfully. The international expert did a long range of test to assure the safe use of the equipment. There have been some challenges with the supply of compressors for the company, but this is expected to be resolved in the future. The final report was developed by the international expert and it has been submitted formally to the Multilateral Fund Secretariat. The main conclusion is that R-290 can be used safely in the Commercial AC unit that are being manufactured by Thermotar. An extensive work on safety has been conducted where potential failure scenarios were simulated and tested with good results. Thermotar is confident that R-290 models can be used safely in the market. However, it is important to stress the need to properly train the installers and servicing technicians as they are key to the safe use and operation of the AC units.

- **Colombia:** Demonstration project to validate the use of hydrofluoro-olefins for discontinuous panels in Article 5 parties through the development of cost-effective formulations.

The formulations were developed and tested in the field. It was tested with two different types of HFOs, and the results underwent statistical analysis to determine if the changes were real. The project implementation was completed successfully and the final report was presented to the MLFS. The technical results are very promising, but the costs and availability of specialized chemicals continue to be of concern. It is important to note that the development of reduced HFO formulations is much more complicated than what is the case with HCFC 141b. It requires that System House acquire additional technical skills and this is likely to add to the costs of the Systems. Any modification in the foam system will require additional work from the System House. The more the HFO system is reduced (reducing HFO and adding Water) the more complicated is the System Development and the expertise required to do so.

- **Costa Rica:** Demonstration of the application of an ammonia/carbon dioxide refrigeration system in replacement of HCFC-22 for the medium-sized producer and retail store of Premezclas Industriales S.A.

The equipment has been installed in PINOVAs plant in Costa Rica. Training has been provided to the technicians at the company. The commissioning has been done satisfactorily. The final report has been prepared and was submitted to the MLFS. The project has achieved some interesting results in

terms of Energy Savings and functionality. The new system is very reliable and have resulted in substantial savings in Energy consumption compared to the past. One of the challenges has been the training of technicians, as there is very limited experience with NH₃-CO₂ in Latin America and the Caribbean. It is important to strengthen the capacity of the technicians in the country if this experience is to be replicated.

- **Dominican Republic:** feasibility study for district cooling in Punta Cana.

The study was conducted, which showed that district cooling is a viable approach for this location, avoiding emission of ODS (future need of approximately 1000 kg of HFC can be avoided) and GHG (8.500 ton CO₂/year reduction). A seminar to present the findings and results was organized and attracted the interest of many stakeholders. The feasibility study determined that a very interesting rate of return on the investment could be obtained with this project. With conservative assumptions, it was concluded that an investment in the range of 10 m US\$ could lead to annual energy savings in the range of 2 m US\$, and additional benefits could be achieved (postpone other investments). Additionally, it was determined that at least an 80 % reduction in CO₂ emissions could be achieved given that currently un-used Waste Energy could be used for new absorption chillers.

Egypt: demonstrating low-cost options for the conversion to non-ODS technologies in polyurethane foams at very small users.

Project documentation has not yet been cleared by the Government, and once this milestone is achieved and the project is registered, the implementation works will commence in full. Initial technology provider survey and contacts (with one mission) have been made by the project team to save time and speed up the project implementation. Potential models of equipment for smaller users have been checked for suitability under this project. UNDP will prepare accurate technical specifications to request only those options which fit the project's purpose.

- **Kuwait:** demonstrating HCFC-free low-global warming potential technology performance in air-conditioning applications.

Project documentation was signed with the Government in the beginning of 2017, and currently a joint work is being carried out to prepare technical specifications for procurement of the required demonstration equipment. International tender is to be announced in second quarter of 2017. Recipient buildings (4 sites) have been selected jointly with KISR – a National Refrigeration Institute. This Institute will be providing technical backstopping for the programme.

- **Maldives:** testing HCFC-free low-global warming potential alternatives in refrigeration in fisheries sector are being tested.

Demonstration project for HCFC-free low-global warming potential alternatives in refrigeration in fisheries sector was approved at the 76th ExCom. The consulting firm was engaged in 2017. Desk study was completed to find the available alternate refrigerant with low GWP. Due to concerns with flammability, the only refrigerant applicable came in selection in the first round of study was R448A (GWP 1387) and the report was submitted to 80th ExCom. The same was discussed in ExCom and UNDP was asked to continue more research on low GWP alternatives. As per ExCom Decision 80/26, another round of desk study was conducted by the consulting team on the available alternates in the market. In the condition of non-acceptance on A2L refrigerant by the industries, three refrigerants of R450A, R513A and R448A came into the final selection round. The consulting team

together with the MIFCO Engineering Team (main fisheries vessels owner) reviewed the options and selected R448A for a demo alternative in the vessel. The PCR of the project was submitted to the 81st ExCom.

B. HFC demonstration projects

Pursuant to ExCom decision 78/3(g), UNDP is preparing investment/demonstration projects to phase down HFCs. UNDP has received approval for one HFC technology demonstration project in Bangladesh and has received preparatory funding for four other countries 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;
- **China:** Project preparation for conversion from HFC-245fa to cyclopentane plus HFOs (C5+HFO) as a foam agent in a refrigerator manufacturer and Project preparation for a demonstration project to convert HFC-23 by-product to valuable organic halides by reaction with hydrogen and carbon dioxide for Liaocheng Fuer New Material Technology Ltd.;
- **Dominican Republic:** Project preparation for conversion from HFC-134a to HC-290 in the manufacture of commercial refrigerators at Farco;
- **Egypt:** Project preparation for conversion from HFC-134a to HFO-1234ze and other liquid HFOs in the manufacture of polyurethane foam and spray foam; and
- **Zimbabwe:** Project preparation for elimination of HFC-134a in the manufacture of domestic refrigerators at Capri.

C. ODS destruction demonstration projects

The UNDP Montreal Protocol & Chemicals Unit has been supporting countries to take steps to manage their stocks of ODS, which cannot be reused in a sound way. The potential for recovery, proper management and final disposal of such unwanted ODS and ODS containing appliances/equipment banked, have been proven as being possible in developed countries if the proper legislation and price incentives, as well as business opportunities, exist. However, the applicability of banks management schemes in developed countries needs to also be demonstrated in Article 5 countries. The Executive Committee has approved preparation activities for Brazil, Colombia, Cuba, Georgia, Ghana and India, to address ODS waste management leading to ODS destruction. Five such projects (Brazil, Colombia, Cuba, Georgia, and Ghana) have been submitted and approved by the Executive Committee in prior years.

The project in **Brazil** is advancing in both, strengthening of the collection center network (reclaim centers) and identification of possible locations for the destruction facility. Cylinders, equipment and tools were delivered to reclaim centers and the procurement process of lab equipment was prepared and launched. The incinerator was defined through Manifestation of Interest, as reported in 2017. At this moment, the reconversion plan for adaptation in the ODS burning operation is being defined.

The project in **Colombia** has also advanced further in 2017 and was completed in the beginning of 2018. A review of legal framework for the management of ODS waste was conducted and comments to proposed waste management regulations were made. Support was provided for the implementation of "Red Verde" for the collection of old refrigerators. One destruction test was conducted. The writing of the final report has been completed and was submitted to ExCom 81. It is important to note that additional tests would be needed for HFCs, as this will be a challenge for the future under the Kigali Amendment. Also important to note that the recollection scheme and dismantling of old refrigerators at a reasonable

cost an important factor for the sustainability of the operation. The future of the recollection and disposal scheme is being financed via an Extended Producer Responsibility programme.

The project in **Cuba** was completed in 2015. All the civil works and burning tests were completed, leading to the start of the destruction of ODS in Cuba, nevertheless the supply of material for destruction and the control of the feed current into the kiln are challenging which has been a key aspect highlighted in other projects of this kind. It is important to note the challenges related to the adaptation of an old Cement kiln (wet) as compared to a new one. One of the main successes in Cuba has been the recollection scheme of old refrigerators which was funded 100% by the Government of Cuba and a key part of a successful scheme. However, some external factors lead to destruction rates lower than what was originally anticipated.

The project in **Georgia** has been completed and enabled export and disposal of ODS waste in partnership with a parallel GEF-funded POPs pesticides destruction project. Overall, 1.5 tons of ODS waste was exported for sound disposal to EU. A final report was submitted to the ExCom in 2017. Lessons learned were reflected in the report.

From the **Ghana** demonstration project, a major lesson was that combining the ODS disposal programme with a rebate scheme encouraging the adoption of more energy-efficient equipment is a very effective approach – it requires, however strong ownership and backing of the Government, as was the case for Ghana. In addition to facilitating the collection process of equipment and refrigerants, the rebate scheme also helps create a working cooperation between ozone and energy efficiency institutions, which facilitates joint work in the long run in the country on these 2 dimensions, MP implementation and energy efficiency . Additionally, having solutions for recovered ODSs is essential when a country adopts a ban on second-hand equipment, which was what Ghana enforced during the project period. Another lesson was that a specific strategy and methodology should be devised during the design stage to deal with the foam part of the refrigerators, and not only focusing on ODSs to be collected as refrigerants. In Ghana it was possible to find an environmentally adequate solution through the cooperation with other ongoing projects in the country to make sure that the foam was disposed of and that gases in the foam would be appropriately managed. Finally, the cooperation with other disposal operation, particularly of hazardous chemicals covered by the Stockholm Convention (PCBs, pesticides...) can make the export operation more economically and practically viable (by reaching a critical mass of materials to be destroyed). Having a demonstration project also sets a motion in the country – now some operations by private companies in Ghana have been launched to dispose of final stocks of ODSs through financing of the voluntary carbon markets in the US, which is an encouraging trend in terms of post-project sustainability. The final report of the demonstration project was submitted and accepted by the ExCom in 2017.

D. Country Highlights (January – December 2017)

UNDP has been at the forefront of innovative solutions for countries to address their Montreal Protocol compliance obligations. UNDP's work has resulted in market transformation for the introduction of environment-friendly products and corresponding policy and technological advances and has bought to countries access to emerging technologies, reduced energy bills for consumers, fostered innovation, and created a more equitable market for greener products, allowing indigenous manufacturers to maintain competitiveness.

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

Bangladesh

ExCom Decision 80/42 (a) approved the first HFC phase-out investment project in support of the Kigali Amendment. This was approved for Walton Hitech Industries Limited, Bangladesh to convert the refrigerant used by this domestic refrigerator manufacturing facility from HFC-134a to isobutane (R-600a), and support conversion of its compressor manufacturing facility from HFC-134a-based compressors to isobutane-based (R600a) compressors. The conversion to isobutene technology in the refrigerator manufacturing sector will result in a phase-out of 197.3 metric tonnes of HFC-134a consumption and 282,139 CO₂ equivalent tons (as related to changes in refrigerant charge). Apart from the HFC phase out in manufacturing sector, Walton will phase out 33.33 metric tonnes of HFC-134a currently consumed in the refrigeration and air-conditioning (RAC) servicing sector of Walton-owned service outlets, which will correspond to 47,662 CO₂-equivalent tonnes in emission reduction. The conversion of the compressor manufacturing facility from HFC-134a-based compressors to isobutane-based compressors, makes low GWP, in-house manufactured compressors available to the market.

In addition, a complementary KCEP project will be implemented by UNDP in partnership with Walton to increase the energy efficiency performance of domestic refrigerators during the process of conversion of its plant under the MLF funded project. The execution of this KCEP project will include a combination of interventions to facilitate technology transfer, training and capacity building, awareness, monitoring and management.

Chile

With funding from the CCAC and the MLF, UNDP and the Government of Chile supported the installation of the first two transcritical CO₂ supermarkets in Chile. This is a new technology in Chile and a lot of training and awareness raising has been done to make this happen. The new technologies will require a new skillset from the technicians and the whole supply chain also needs to have training on new technologies. The successful projects have not only introduced natural refrigerants in the supermarket sector, but it has also lead to improved energy efficiency in the new stores. Both things are very important. The most important part of the project is related to the sustainability of the intervention. Two supermarket chains have now committed to continue the installation of new supermarkets with transcritical CO₂, and it is expected that eight stores will be using this technology by the end of 2018.

China

Funding was approved at the 80th Meeting of the ExCom (Decision 80/42) for the preparation of a standalone project for conversion from HFC-245fa to C5+HFO as a foam agent in a domestic refrigerator manufacturer, Hisense Kelon Electrical Holdings Company Ltd., China. The Hisense Group was established in 1984, and is a major domestic refrigerator manufacturer in China. Hisense-Kelon has 5 manufacturing factories for domestic refrigerators, with annual production capacity of 12.6 million units. It is estimated that 1200 MT of HFC-245fa is consumed by Hisense-Kelon; and with this project, 200MT of HFC-245fa will be phased out. This proposed project is expected to facilitate adoption of non-HFCs technologies, as well as to assist exploration of efficient management mechanisms to phase down HFCs as a foaming agent. This project will provide valuable support to the government and industry to control HFCs and meet the future targets of the Kigali Amendment.

Kuwait

Kuwait RAC-technology demonstration project was approved by the Executive Committee of the Multilateral Fund in order to showcase non-HCFC technological solutions and their operation in high-ambient temperature areas. The project has been under implementation since early 2017 preparing for the procurement of new RAC technologies with low GWP, such as R290 (propane). A market research study was completed to select participating organizations (buildings) and the supply routes of such equipment in

Kuwait. As a result, some of the potential suppliers were removed from consideration due to non-availability of required capacity equipment, and an international tender was announced to sub-contract suitable suppliers of the equipment. Due to high initial costs received for a number of participating buildings, it was decided to reduce the number of participants, and the new tender in 2018 is expected to bring in such demonstration equipment into the country to complete the project. Results of the project will be shared with other countries in the region, and a report will be provided to the Executive Committee as soon as the project has been fully completed.

Lebanon

Lebanon's HCFC Phase-out Management Plan (HPMP Stage-I) was designed to implement a combination of interventions such as technology transfer investments, policies and regulations, technical assistance, training, awareness and communications and management, coordination and monitoring in the Foam and Air Conditioning/Refrigeration sectors, and will last over six years from 2011 to 2017. HPMP Stage-I resulted in net sustainable reductions of 20.03 ODP tonnes in the national HCFC consumption by 2015, contributing to Lebanon's compliance with the 2013 and 2015 control targets for HCFCs. In addition, the project will result in a net CO₂-equivalent emission reductions of about 0.66 million tonnes annually from 2015.

The following rationale and strategic considerations were the base of this phase-out strategy for compliance with the 2013 and 2015 as well as beyond 2015 compliance targets: the manufacturing sectors have been prioritized, and the servicing sector will be addressed in 2018 and beyond. Successful implementation of the HCFC Phase-out Management Plan (Stage-II) for Lebanon will result in the reduction of HCFC consumption levels to 18.39 ODP tons by the year 2025. In order to meet this objective, actions to ensure a minimum phase-out of 55 ODP tonnes (based on 2014 consumption levels) of HCFC consumption will need to be accomplished in a time span of about ten years. This phase-out will be addressed in this HPMP (Stage-II), through technology conversions in the enterprises manufacturing discontinuous sandwich panels, air-conditioning products and in enterprises engaged in servicing of RAC equipment.

ODS alternatives surveys in Latin America

UNDP successfully completed the seven ODS alternative surveys that were approved for the Latin American & Caribbean region. It is important for the countries to have updated information, especially on the HFC consumption, as this will be important for countries' future obligations under the Kigali Amendment. The projects allowed the countries to make a thorough analysis about the demands for refrigerants in the RAC sector, and to develop some consumption trends. It also allowed the countries to make an analysis about their licensing system to see if everything is being captured in it. All countries now feel that they are now in a much better position to understand the RAC sector in their countries.

Belarus, Tajikistan, Ukraine, Uzbekistan (GEF regional project)

This GEF-financed project aimed to support the accelerated HCFC phase-out in CEITs (Belarus, Tajikistan, Ukraine and Uzbekistan) and to strengthen these countries' preparedness for the complete phase-out of HCFCs. The project organized two regional Training of Trainers' session on natural refrigerants (hydrocarbons, ammonia and carbon dioxide) for servicing technicians to strengthen preparedness for system conversion to alternatives. These trainings were replicated in all four countries with elements of safety standards. The project produced 13 regional trainers who will be available in the Europe and Central Asia (ECA) region and follow up trainings have already reached to more than 250 servicing technicians in all four participating CEITs. Several pilot projects are demonstrated in participating countries (absorption chiller and low charge ammonia systems in Belarus; free cooling in Tajikistan; methylal systems in Ukraine; and ammonia chillers in Uzbekistan) and lessons learnt are being

disseminated in international meetings and conferences. The project also reviewed the status of ODS management in the participating countries and produced two key guidance documents on 1) ODS data collection methodology and 2) ODS waste management strategy with country specific road maps. As noted in the documents, the challenges in MLF-funded ECA countries is similar with lack of ODS disposal options on which the regional approach is suggested. In 2017, this project intensified translation activities to make key resources available in Russian language. In coordination with UN Environment ECA OzonAction, key UN Environment publications (and video series for RAC technicians) were translated into Russian. The project also translated the e-learning modules of realalternatives.eu, which covers the safety, efficiency, reliability and containment of low GWP alternative refrigerants – Carbon Dioxide, Ammonia, Hydrocarbon and low flammables (HFOs and R32). All these materials in Russian are being available and disseminated with the support of UN Environment ECA regional Ozone network.

South to South Cooperation

UNDP with support from FECO, China, organized two successful study tours for Indian and Indonesian industries (Foam and RAC sector respectively) to China, for delegates to have better understandings of the technology, performance, strategy etc. implemented in China to phase out HCFC in the Foam and RAC sectors. Each tour included both convening workshops and plant visits. Through these modes of knowledge exchange, the delegates gained deeper understanding of available and emerging technologies. This model promotes direct communication between host and visiting countries, between government authorities and enterprises alike; and very good feedback was received from all the participants, as they found the tour meaningful and informative.

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

A. Meetings Attended by UNDP in 2017

From	To	Location	Description
25-Jan-17	27-Jan-17	Ghana	Policy Support and Programme Oversight
26-Jan-17	27-Jan-17	Colombia	Policy Support and Programme Oversight
31-Jan-17	2-Feb-17	USA	CCAC Workshop
14-Feb-17	16-Feb-17	Mexico	Policy Support and Programme Oversight
20-Feb-17	23-Feb-17	Canada	IACM
20-Feb-17	23-Feb-17	Nigeria	Policy Support and Programme Oversight
21-Feb-17	24-Feb-17	Peru	Policy Support and Programme Oversight
28-Feb-17	2-Mar-17	Iran	Policy Support and Programme Oversight
4-Mar-17	15-Mar-17	India	Policy Support and Programme Oversight
13-Mar-17	17-Mar-17	Nigeria	Policy Support and Programme Oversight
20-Mar-17	24-Mar-17	Cote d'Ivoire	Joint Network Meeting for National Ozone Officers for English-speaking and French-speaking Africa and Thematic Meeting on the Kigali Amendment
2-Apr-17	4-Apr-17	Mexico	Policy Support and Programme Oversight
4-Apr-17	8-Apr-17	Canada	78th ExCom Meeting
4-Apr-17	14-Apr-17	China	Policy Support and Programme Oversight
1-May-17	5-May-17	Cuba	Policy Support and Programme Oversight
2-May-17	7-May-17	Thailand	Network Meeting for South East Asia and Pacific
6-May-17	13-May-17	Malaysia,	Stage II HPMP Launch

		Indonesia	
8-May-17	12-May-17	Brazil	Policy Support and Programme Oversight
10-May-17	13-May-17	Indonesia	Policy Support and Programme Oversight
10-May-17	12-May-17	FYR Macedonia	Network Meeting for Europe/CIS Ozone Officers
17-May-17	19-May-17	Grenada	Network Meeting for English speaking LAC countries
19-May-17	27-May-17	India	Network Meeting for South Asia
22-May-17	25-May-17	Peru	Policy Support and Programme Oversight
26-Jun-17	29-Jun-17	USA	Meeting with K-CEP
1-Jul-17	14-Jul-17	Thailand	OEWG, 58th ImpCom and 79th Excom Meeting
16-Jul-17	18-Jul-17	Indonesia	Policy Support and Programme Oversight
17-Jul-17	20-Jul-17	Bangladesh	Policy Support and Programme Oversight
23-Jul-17	28-Jul-17	Nigeria	Policy Support and Programme Oversight
24-Jul-17	26-Jul-17	Peru	Policy Support and Programme Oversight
7-Aug-17	11-Aug-17	Colombia	Policy Support and Programme Oversight
12-Aug-17	18-Aug-17	China	Policy Support and Programme Oversight
14-Aug-17	17-Aug-17	Maldives	Policy Support and Programme Oversight
17-Aug-17	18-Aug-17	Sri Lanka	Policy Support and Programme Oversight
20-Aug-17	24-Aug-17	Malaysia	Policy Support and Programme Oversight
22-Aug-17	25-Aug-17	Uruguay	Policy Support and Programme Oversight
4-Sep-17	6-Sep-17	Canada	IACM
4-Sep-17	6-Sep-17	Mexico	Policy Support and Programme Oversight
11-Sep-17	12-Sep-17	China	30th Anniversary of Montreal Protocol & 2017 International Ozone Day
12-Sep-17	15-Sep-17	Brazil	Policy Support and Programme Oversight
14-Sep-17	15-Sep-17	Nepal	Policy Support and Programme Oversight
16-Sep-17	18-Sep-17	India	Policy Support and Programme Oversight
24-Sep-17	27-Sep-17	France	CCAC Work Group Meeting
27-Sep-17	29-Sep-17	Colombia	Policy Support and Programme Oversight
3-Oct-17	5-Oct-17	Costa Rica	Joint Network meeting of the English and Spanish speaking networks for Latin America and the Caribbean
14-Oct-17	17-Oct-17	Bangladesh	Policy Support and Programme Oversight
16-Oct-17	18-Oct-17	Kyrgyzstan	Policy Support and Programme Oversight
23-Oct-17	25-Oct-17	China	Policy Support and Programme Oversight
23-Oct-17	26-Oct-17	Brazil	Policy Support and Programme Oversight
2-Nov-17	4-Nov-17	China	Policy Support and Programme Oversight
6-Nov-17	10-Nov-17	Angola	Policy Support and Programme Oversight
6-Nov-17	8-Nov-17	Chile	CCAC technology workshop for Commercial refrigeration
10-Nov-17	10-Nov-17	Mexico	Events marking the 30th anniversary of the Montreal Protocol
12-Nov-17	24-Nov-17	Montreal	80th Executive Committee Meeting, 59th ImpCom and 29th MOP Meeting
2-Dec-17	5-Dec-17	Iran	Policy Support and Programme Oversight
7-Dec-17	8-Dec-17	Cambodia	Policy Support and Programme Oversight
11-Dec-17	15-Dec-17	Malaysia	Policy Support and Programme Oversight
17-Dec-17	23-Dec-17	Indonesia	Policy Support and Programme Oversight
18-Dec-17	22-Dec-17	Ghana	Policy Support and Programme Oversight

B. **Other Issues.**

There were no specific issues in 2017 that need to be addressed

ANNEX 1: Tables related to the Performance Indicators

1. Performance Indicator 1: MYAs

Multi-year agreements submitted in 2017 are listed in the following table.

MLF Number
ANG/PHA/79/INV/19
BAR/PHA/80/INV/27
BRA/PHA/80/TAS/318
BZE/PHA/79/INV/32
COS/PHA/80/INV/57
CPR/PHA/80/INV/586
CPR/PHA/80/INV/587
DRC/PHA/80/INV/45
EGY/PHA/79/TAS/132
LEB/PHA/79/INV/90
MAU/PHA/80/INV/25
PER/PHA/79/INV/52
PER/PHA/80/INV/55
TLS/PHA/80/INV/15
TLS/PHA/80/INV/18
Nigeria Stage II HPMP

2. Performance Indicator 2: Individual Projects

The number of individual projects approved in 2017 are listed in the following table.

MLF Number
CHI/SEV/79/INS/194
COL/SEV/79/INS/101
COS/SEV/80/INS/56
DRC/PHA/79/PRP/42
ELS/PHA/79/TAS/36
GLO/SEV/80/TAS/343
IDS/SEV/80/INS/212
MAL/SEV/80/INS/185
PAN/SEV/80/INS/45
TRI/SEV/79/INS/34
URU/SEV/80/INS/70

3. Performance Indicator 3: Funds disbursed

2017 Disbursements	\$30,454,627
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4. Performance Indicator 4: 2015 ODS phase-out

MLF Number	ODP to be Phased Out
BZE/PHA/79/INV/32	0.2
LEB/PHA/79/INV/90	12.4
ANG/PHA/79/INV/19	4.0
BAR/PHA/80/INV/27	

	0.4
BRA/PHA/80/INV/319	-
BRA/PHA/80/TAS/318	53.3
COS/PHA/80/INV/57	1.7
CPR/PHA/80/INV/586	59.8
CPR/PHA/80/INV/587	-
DRC/PHA/80/INV/45	0.3
EGY/PHA/79/INV/135	11.0
EGY/PHA/79/TAS/132	
MAU/PHA/80/INV/25	0.9
PER/PHA/79/INV/52	0.9
PER/PHA/80/INV/55	2.7
TLS/PHA/80/INV/15	-
TLS/PHA/80/INV/18	-

* Tonnes come from 2017 Business Plan for entries highlighted in yellow.

5. **Performance Indicator 5: Projects completed in 2017.**

The following 63 projects were completed in 2017:

MLF Number	Actual Date Completed
ANG/PHA/77/INV/18	Dec-17
ARG/SEV/71/INS/172	Dec-17
ARM/PHA/66/INV/09	Aug-17
BAR/PHA/69/INV/21	Dec-17
BGD/SEV/71/INS/41	Mar-17
BGD/SEV/75/TAS/46	Dec-17
BRA/PHA/73/INV/306	Dec-17
BRA/REF/47/DEM/275	Jun-17
BZE/PHA/79/INV/32	Dec-17
CHI/PHA/71/INV/179	Dec-17
CHI/SEV/74/INS/186	Dec-17
COS/PHA/74/INV/50	Dec-17
COS/PHA/75/TAS/54	Dec-17
COS/REF/76/DEM/55	Dec-17
COS/SEV/74/TAS/52	Feb-17
CPR/PHA/75/INV/569	Dec-17
CPR/SEV/73/INS/549	Jan-17
CUB/SEV/71/INS/52	Dec-17
CUB/SEV/75/TAS/55	Sep-17
DOM/PHA/74/INV/58	Dec-17

DOM/REF/74/TAS/57	Nov-17
DOM/SEV/75/TAS/59	Sep-17
DRC/PHA/70/INV/37	Dec-17
ELS/SEV/74/TAS/33	Sep-17
FIJ/PHA/73/INV/27	Jun-17
GEO/PHA/75/TAS/38	Dec-17
GEO/SEV/74/INS/37	Dec-17
GHA/PHA/72/INV/39	Nov-17
GLO/SEV/77/TAS/339	Dec-17
IDS/PHA/71/INV/198	Dec-17
IDS/PHA/71/INV/199	Dec-17
IDS/SEV/75/INS/206	Dec-17
IND/PHA/71/INV/451	Dec-17
IND/PHA/71/TAS/448	Dec-17
IND/PHA/75/INV/463	Nov-17
IND/PHA/75/INV/464	Dec-17
IND/PRO/75/INV/447	Nov-17
IND/SEV/72/INS/457	Jan-17
IRA/PHA/63/INV/204	Dec-17
IRA/SEV/72/INS/213	Jul-17
KAM/PHA/70/INV/28	Dec-17
KYR/PHA/77/TAS/38	Dec-17
LEB/PHA/74/INV/84	Dec-17
LEB/PHA/79/INV/90	Dec-17
LEB/SEV/73/INS/82	Dec-17
MAL/SEV/75/INS/180	Dec-17
MDV/REF/38/TAS/05	Dec-17
MOL/PHA/73/TAS/30	Nov-17
MOL/PHA/74/INV/31	May-17
MOL/SEV/75/TAS/33	Mar-17
NIR/SEV/73/INS/141	Jan-17
PAK/ARS/56/INV/71	Jun-17
PAN/SEV/74/TAS/41	Sep-17
PAR/SEV/75/TAS/35	Sep-17
PER/PHA/75/INV/48	Mar-17
PER/PHA/79/INV/52	Dec-17
PER/SEV/75/TAS/50	Sep-17
SRL/PHA/71/TAS/45	Dec-17
SRL/SEV/72/INS/46	Jan-17
TRI/PHA/64/INV/26	Dec-17
TRI/SEV/73/INS/31	Jan-17
URU/SEV/75/INS/65	Dec-17
VEN/SEV/73/INS/128	Dec-17

7. Performance Indicator 7: Final Revisions

Last year's database counted 51 projects, of which 36 should have been financially completed in

2017. This year's database counts 36 projects for which a final revision was issued in 2017, which meets our target.

8. Performance Indicator 8: PCRs

100% achieved (7 individual PCRs and 1 multi-year PCR submitted out of 8 PCRs scheduled for submission in 2017).

9. Performance Indicator 9

Progress Report produced on 27 August 2018 as required.