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执行蒙特利尔议定书
多边基金执行委员会
第九十七次会议
2025 年 12 月 1 至 5 日，蒙特利尔
临时议程¹ 项目 7(a)(三)

开发计划署截至 2024 年 12 月 31 日的进度报告

导言

1. 本文件介绍开发计划署截至 2024 年 12 月 31 日的进度报告。²
2. 开发计划署的进度报告中纳入了项目执行情况，包括氢氟碳化物相关项目，后者由 17 个非第 5 条缔约方的额外自愿捐款供资，为执行《基加利修正》提供快速启动支助。
3. 秘书处逐国审查了每个进行中项目的执行情况，同时考虑到执行工作相对于 2024 年报告的计划完成日期所出现的延误、这些延误对淘汰受控物质以及计划的资金发放率可能产生的影响。本文件所载分析以所有受控物质的 ODP 吨数为依据，但既以公吨又以二氧化碳当量吨计算的氢氟碳化物除外。³
4. 本文件介绍在经常资金和额外自愿捐款下核准的所有项目 2024 年的项目执行进展以及 1991 年以来的累计进展，针对所有受控物质，包括附件 F 物质（氢氟碳化物）。本文件还载有对国家一级每个进行中项目⁴的执行情况审查，指出了实施工作存在延误的项目及其对淘汰受控物质可能产生的影响，并指出了存在未决问题供执行委员会审议的项目。由于在额外自愿捐款下核准的所有项目都已完成，而且所剩余额将退还秘书处，秘书处将不再单独报告这些项目。

¹ UNEP/OzL.Pro/ExCom/97/1

² 进度报告附于本文件之后。数据已列入综合进度报告数据库，以电子表格程序 Microsoft Excel 的形式载于多边基金网站第九十七次会议门户网站。

³ 根据第 84/12 号决定(a)(四)段，对氢氟碳化物以二氧化碳当量吨的衡量已纳入提交第九十七次会议的进度报告。

⁴ 进行中的项目是指截至 2024 年 12 月 31 日正在实施的所有项目。关键进度指标包括：已发放资金的百分比和已开始发放资金的项目的百分比；年底前预计发放的供资占核准供资的百分比；执行过程中的平均预计延误时间；进度报告数据库中备注栏提供的信息。

2024 年的项目执行进展和 1991 年以来的累计进展

5. 截至 2024 年 12 月 31 日，执行委员会已核准开发计划署项目 11 亿美元，其中 9.6752 亿美元用于执行投资和非投资项目，1.3412 亿美元用于机构支助费用，如表 1 所示。

表 1. 截至 2024 年 12 月 31 日开发计划署按行业分列的核定供资

行业	供资 (美元)
气雾剂	26,054,837
销毁	4,436,037
能源效率	2,362,019
泡沫	174,543,644
哈龙	4,996,973
逐步减少氢氟碳化物计划	16,001,127
熏蒸剂	20,081,241
淘汰计划	427,990,351
加工剂	1,286,923
生产	1,060,066
制冷	142,922,668
多重影响	81,663,722
溶剂	63,699,997
消毒剂	417,628
小计	967,517,233
机构支助费用	134,117,165
共计	1,101,634,398

6. 2024 年核准了 75 个新项目和活动。这一供资水平预计可以淘汰 70,528 ODP 吨的臭氧消耗物质消费量和 2,605 公吨（5,549,026 吨二氧化碳当量）的氢氟碳化物消费量。附件一按国家列示了 2024 年项目执行情况。

7. 表 2 列示了截至 2024 年 12 月 31 日的项目执行情况，包括各类项目的供资发放率。附件二列示了自 1991 年以来每年的分析性信息。

表 2. 截至 2024 年 12 月 31 日各类项目执行情况

类别	项目数量*			供资 (美元)**			
	核准	完成	完成率%	核准	发放	余额	发放率%
国家方案	22	22	100	1,628,797	1,628,797	0	100
示范	43	42	98	21,868,769	21,718,833	149,936	99
机构强化	293	270	92	69,833,208	59,844,685	9,988,523	86
投资	1,437	1,332	93	791,325,150	728,349,394	62,975,756	92
项目编制	619	581	94	28,922,871	26,021,537	2,901,334	90
技术援助	360	345	96	52,347,949	49,529,425	2,818,524	95
培训	28	28	100	1,590,489	1,590,489	0	100
共计	2,802	2,620	94	967,517,233	888,683,160	78,834,073	92

* 不包括已关闭或改变执行机构的项目。

** 不包括机构支助费用。

8. 开发计划署 2024 年项目和活动以及 1991 年至 2024 年 12 月 31 日累计项目和活动执行情况概述如下：

- (a) **淘汰:**⁵ 2024 年, 淘汰了 401.5 ODP 吨的臭氧消耗物质消费量,⁶又核准淘汰另外 188.1 ODP 吨臭氧消耗物质消费量和 949.2 公吨 (2,571,839 吨二氧化碳当量) 氢氟碳化物消费量。自 1991 年以来, 核准的项目 (不包括撤销和改变执行机构的项目) 淘汰了 69,342 ODP 吨臭氧消耗物质消费量, 而预期总量为 70,528 ODP 吨; 并淘汰了 648.4 公吨 (827,395 吨二氧化碳当量) 的氢氟碳化物消费量, 而预期总量为 2,605 公吨 (5,549,026 吨二氧化碳当量);
- (b) **发放/核准:** 2024 年, 根据 2023 年进度报告, 共发放 1,875 万美元, 计划发放 1,967 万美元, 发放率为计划发放的 95%。累计而言, 在核准发放的共计 9.6752 亿美元 (不包括机构支助费用) 中, 已发放 8.8868 亿美元, 发放率为 92%。2024 年, 核准了 3,267 万美元用于执行工作;
- (c) **成本效益 (按 ODP 计):**⁷ 自 1991 年以来, 使消费量永久减少的已核准投资项目的平均成本效益为 11.50 美元/公斤。投资项目中已完成项目的每 ODP 吨平均成本效益为 11.01 美元/公斤, 进行中项目为 20.81 美元/公斤;⁸
- (d) **已完成项目的数目:** 2024 年完成了 66 个项目。自 1991 年以来, 在核准的 2,802 个项目中, 已完成 2,620 个项目 (不包括已关闭或改变执行机构的项目), 完成率为 94%;
- (e) **交付速度 – 投资项目:** 2024 年完成的项目平均在获准后的 43 个月内完成。自 1991 年以来, 投资项目的平均完成时间为获准后 34 个月。这些项目下的首次付款平均发生在项目获准的 13 个月之后;
- (f) **交付速度 – 非投资项目:** 2024 年完成的项目平均在获准后的 27 个月内完成。自 1991 年以来, 非投资项目的平均完成时间为获准后 38 个月。这些项目下的首次付款平均发生在项目获准的 13 个月之后;
- (g) **项目编制:** 在 2024 年底之前获准的 619 个项目编制活动中, 已完成 581 个, 还有 38 个活动仍在进行。2024 年完成了 25 个项目编制活动;
- (h) **执行拖延:** 截至 2024 年底, 共有 182 个项目正在执行之中, 平均拖延 4 个月。这些项目中有 15 个被列为“执行拖延项目”⁹, 受项目撤销程序的约束 (而示范项目、项目编制和机构强化则不受这些程序的约束);
- (i) **多年期协议:** 2024 年, 有 44 项含氢氯氟烃淘汰管理计划的多年期协议和 21 项基加利氢氟碳化物执行计划正在执行。自 1991 年以来, 已核准 186 项多年期协议, 完成了 121 项, 完成率为 65%。

⁵ 臭氧消耗物质的淘汰量以 ODP 吨表示, 氢氟碳化物的淘汰量以公吨和二氧化碳当量吨表示。

⁶ 2024 年氢氟碳化物相关项目没有淘汰量。

⁷ 包括 2,605 公吨氢氟碳化物相关项目。由于核准的项目数量有限, 未将二氧化碳当量的成本效益包括在内。

⁸ 进行中项目的成本效益值较高主要是因为含氢氯氟烃的 ODP 值较低, 但也因为各机构归属淘汰量的方法。

⁹ 已获准超过 18 个月但付款不足 1% 的项目, 或在进度报告提议的完成日期 12 个月后仍未完成的项目 (第 22/61 号决定)。

9. 表 3 概述了自 1991 年以来开发计划署取得的进展。

表 3：自 1991 年以来开发计划署取得的进展

实现的淘汰量		发放 (美元)	平均成本 效益 (美元/公斤)	项目数目		完成交付速度 (月)		平均项目 延迟 (月)	多年期协议 数目	
ODP 吨	二氧化碳当量吨*			核准	完成	投资	非投资		核准	完成
69,342	827,395	888,683,160	11.50	2,802	2,620	34	38	4	186	121

* 氢氟碳化物相关项目。

氢氟碳化物相关项目

10. 截至 2024 年 12 月 31 日，执行委员会核准了 117 个氢氟碳化物相关项目（包括 1 个示范项目、44 个投资项目、50 个项目编制活动和 22 个技术援助项目），共计 26,947,921 美元（不包括机构支助费用）。表 4 概述了这些项目的状况，相关数据已列入第 5 至 9 段。

表 4. 核准的氢氟碳化物相关项目

类别	项目数目			供资 (美元)*			
	核准	完成	完成率%	核准	发放	余额	发放率%
示范	1	0	0	150,000	0	150,000	0
投资**	44	5	11	19,125,234	6,937,477	12,187,757	36
项目编制	50	33	66	4,689,011	3,024,432	1,664,579	65
技术援助	22	19	86	2,983,676	2,253,041	730,635	76
共计	117	57	49	26,947,921	12,214,950	14,732,971	45

* 不包括项目支助费用。

** 核准淘汰 2,605 公吨（5,549,026 吨二氧化碳当量）氢氟碳化物。

11. 截至 2024 年底，在这 117 个项目中，有 5 个投资项目、33 个项目编制和 19 个技术援助活动已经完成，还有 60 个正在进行。这些活动正处于不同的实施阶段。

12. 在核定累计供资总额 26,947,921 美元（不包括机构支助费用）中，已发放 12,214,950 美元，发放率为 45%。

2024 年项目执行中发现的问题

13. 在审查进程之后，对若干问题进行了讨论并得到了令人满意的解决，但下列问题除外：15 个被列为执行拖延的项目（包括根据第 84/45 号决定(c)段，受项目撤销程序约束的 12 个与多年期协议组成部分有关的项目；2 个技术援助项目和一个氢氟碳化物投资项目）。本文件附件三列示了被列为执行拖延的项目，以及秘书处要求向第九十八次会议提交报告的建议。

14. 此外，指出了一个与含氢氯氟烃淘汰多年期协议的某次付款有关的问题。该问题另见附件三，其中简要说明了执行现况，列示了未决问题，并提出了一项建议供执行委员会审议。

15. 安哥拉、¹⁰ 孟加拉国、¹¹ 中国（总体、工商制冷和空调、溶剂）、¹² 古巴、¹³ 马里、¹⁴ 秘鲁 ¹⁵ 和南苏丹 ¹⁶ 含氟氯烃淘汰管理计划（对墨西哥 ¹⁷ 而言则是基加利执行计划）相关项目的实施进展详情、以及与黎巴嫩含氢氯氟烃淘汰管理计划相关的有具体报告要求的项目 ¹⁸ 报告已提交第九十七次会议。关于这些项目的未决问题的建议，包括核准延长申请（若有），见这些文件的相关章节。下文讨论未列入本文件附件三的其余进行中项目的未决问题和延长完成日期的申请。

16. 自 2023 年进度报告以来，在 121 个正在进行的项目中（不包括机构强化和项目编制），有 16 个项目修订了计划完成日期。

17. 根据第 95/12 号决定(b)段，秘书处指出，过去 3 年不曾为中国提交延续机构强化项目的申请，预计将在 2026 年提交。

18. 在第九十五次会议上，执行委员会在核准格鲁吉亚含氢氯氟烃淘汰管理计划第二阶段第二次供资时注意到，开发计划署将就禁止进口和安装使用含氢氯氟烃设备条例的进展情况提交一份报告，作为其将在 2025 年第二次会议上提交的 2024 年财务和进度报告 ¹⁹ 的一部分。开发计划署报告称，一项研究证实，该国没有进口或出售使用含氢氯氟烃的制冷和空调新设备。包括进口商、维修公司和职业培训机构在内的利益攸关方进一步证实，市场正按照全球制造业趋势和供应链现实，逐渐转向使用低全球升温潜能值制冷剂的系统。开发计划署将在第九十七次会议上就这一事项提供最新情况。

19. 根据第 82/11 号决定(b)段，²⁰ 开发计划署申请延长 9 个项目的期限，如表 5 所示。

表 5. 申请延长完成日期的项目

国家/ 项目编号	发放率 (%)	需要更多时间的活动	原定完成 日期	申请的完 成日期
将卡普里（哈拉雷中小企业）家用冰箱制造过程中使用的 HFC-134a 转为异丁烷				
津巴布韦 ZIM/REF/82/INV/55	89	完成冷却回路原型、调试冷冻生产线和完成安全审核	2025 年 6 月	2026 年 6 月
编制国家受控废物库存清单，并制定管理这些物质的国家计划（第 91/66 号决定）				
智利 CHI/DES/94/PRP/213	0	招聘顾问、完成数据收集和分析工作，并编制报告	2026 年 6 月	2027 年 6 月
古巴 CUB/DES/93/PRP/69	14	完成数据收集和分析工作，并编制报告	2025 年 12 月	2026 年 12 月

¹⁰ UNEP/OzL.Pro/ExCom/97/35

¹¹ UNEP/OzL.Pro/ExCom/97/37

¹² UNEP/OzL.Pro/ExCom/97/44

¹³ UNEP/OzL.Pro/ExCom/97/46

¹⁴ UNEP/OzL.Pro/ExCom/97/58

¹⁵ UNEP/OzL.Pro/ExCom/97/70

¹⁶ UNEP/OzL.Pro/ExCom/97/78

¹⁷ UNEP/OzL.Pro/ExCom/97/60

¹⁸ UNEP/OzL.Pro/ExCom/97/17

¹⁹ 第 95/34 号决定(a)段，UNEP/OzL.Pro/ExCom/95/94 附件十七。

²⁰ 任何延期请求都必须在项目完成日期之前提交执行委员会批准，并指出在延期获得批准之前，不得作出新的承诺。

国家/ 项目编号	发放率 (%)	需要更多时间的活动	原定完成 日期	申请的完 成日期
埃及 EGY/DES/93/PRP/155	0	招聘顾问、完成数据收集和分析工作，并编制报告	2025 年 12 月	2026 年 12 月
牙买加 JAM/DES/93/PRP/46	0	招聘顾问、完成数据收集和分析工作，并编制报告	2025 年 12 月	2026 年 12 月
巴拿马 PAN/DES/94/PRP/58	0	完成数据收集和分析工作，并编制报告	2026 年 6 月	2027 年 6 月
秘鲁 PER/DES/93/PRP/64	0	招聘顾问、完成数据收集和分析工作，并编制报告	2025 年 12 月	2026 年 12 月
特立尼达和多巴哥 TRI/DES/93/PRP/43	0	招聘顾问、完成数据收集和分析工作，并编制报告	2025 年 12 月	2026 年 12 月
乌拉圭 URU/DES/93/PRP/82	0	招聘顾问、完成数据收集和分析工作，并编制报告	2025 年 12 月	2026 年 12 月

性别平等主流化²¹

20. 开发计划署实施的所有项目继续适用开发计划署的性别平等战略、多边基金的性别平等主流化政策和国家的性别平等相关政策。通常，开发计划署确保项目实施工作包括与相关协会、网络和利益攸关方进行协商，以及收集关于妇女参与情况的分类数据。开发计划署国家办事处通过衡量开发计划署干预措施在国家一级的影响等一系列评判标准进展情况的旗舰项目“性别平等印章”方案，监测国家办事处在性别平等方面的绩效。虽然促进妇女参与的活动因国家而异，但迄今为止实施的战略已使更多妇女参加根据《蒙特利尔议定书》举办的培训课程和会议。

21. 在中国，开发计划署与中国制冷和空调行业大学生科技竞赛合作，使青年参与制冷行业的可持续做法，并增强青年妇女的权能。这一举措促使青年妇女享有可见度、传帮带和职业发展，有助于克服该行业的职业障碍。在哥伦比亚，为了查明和了解从事制冷和空调行业工作的妇女，在全国范围开展了一次数据收集活动。之后，每年举行制冷和空调行业妇女会议，重点是签署意向书，表示有兴趣在哥伦比亚组建制冷和空调行业妇女网络。在马里巴马科，举办了两次宣传讲习班，围绕最佳制冷做法和海关执法对确保该国遵守《蒙特利尔议定书》的重要性进行培训，有 90 人参加，其中 21 人是妇女，占参加总人数的 23%。制冷和空调技术人员讲习班的妇女参与率达到 34%。这些成果反映了包容性能力建设取得的切实进展，并为今后在马里促进性别平等的方案规划奠定了坚实基础。

22. 最后，为编制基加利氢氟碳化物执行计划而收集的数据包括按性别、行业和次级行业分列的技术人员人数。此外，在制定基加利氢氟碳化物执行计划和含氢氯氟烃淘汰管理计划的新阶段时，开发计划署广泛考虑从以往的含氢氯氟烃淘汰管理计划中汲取的有关性别平等主流化的经验教训。主要挑战包括缺乏关于性别的基线数据以及从事制冷和空调行业工作的妇女有限。

²¹ 执行委员会要求双边机构和执行机构根据现有资料，在 2023 年底前，作为其年度进展报告的一部分，提供一份关于性别平等主流化主要成果的简要报告（第 90/48 号决定(d)段）。

建议

23. 谨提议执行委员会：

- (a) 注意到 UNEP/OzL.Pro/ExCom/97/13 号文件所载开发计划署截至 2024 年 12 月 31 日的进度报告；
- (b) 如文件 UNEP/OzL.Pro/ExCom/97/13 号文件表 5 所示，核准延长下列项目的完成日期，以便能够完成正在进行的剩余活动：
 - (一) 将津巴布韦卡普里（哈拉雷中小企业）家用冰箱制造过程中使用的 HFC-134a 转为异丁烷的项目延长至 2026 年 6 月 (ZIM/REF/82/INV/55)；
 - (二) 为下列国家编制国家受控废物库存清单，并制定管理这些物质的国家计划（第 91/66 号决定）：
 - a) 延至 2026 年 12 月：古巴 (CUB/DES/93/PRP/69)、埃及 (EGY/DES/93/PRP/155)、牙买加 (JAM/DES/93/PRP/46)、秘鲁 (PER/DES/93/PRP/64)、特里尼达和多巴哥 (TRI/DES/93/PRP/43) 以及乌拉圭 (URU/DES/93/PRP/82)；
 - b) 延至 2027 年 6 月：智利 (CHI/DES/94/PRP/213) 和巴拿马 (PAN/DES/94/PRP/58)；
- (c) 核准与本文件附件三所载存在具体问题的进行中项目有关的建议。

附件一

开发计划署 2024 年按国家分列的项目执行情况概览

1. 附件一表 1 按国家列示 2024 年在实现的淘汰量、计划的和实现的资金发放量以及项目完成方面的项目执行情况。

表 1. 开发计划署 2024 年项目执行情况

国家	2024 年 淘汰量 (ODP 吨) *	2024 年 淘汰量 (二氧化碳 当量吨) *	2024 年 发放的 资金估计数 (美元)	2024 年 发放的资金 (美元)	2024 年发放 资金占 估计数的 百分比	2024 年 完成的 计划项目 百分比**
安哥拉	0.0	0	272,286	114,499	42	
阿根廷	0.0	0	185,128	92,933	50	
孟加拉国	6.8	0	507,649	1,139,761	225	0
巴巴多斯	0.0	0	28,750	0	0	
伯利兹	0.0	0	21,325	0	0	100
不丹	0.0	0	25,000	0	0	0
巴西	66.3	0	1,074,324	2,194,806	204	
柬埔寨	0.4	0	62,902	46,169	73	100
智利	0.0	0	373,434	199,740	53	
中国	98.6	0	2,994,092	5,756,097	192	50
哥伦比亚	0.0	0	623,325	559,150	90	
哥斯达黎加	0.0	0	284,866	328,618	115	
古巴	0.0	0	304,597	283,308	93	100
刚果民主共和国	0.0	0	50,140	0	0	0
多米尼加共和国	0.0	0	365,427	132,036	36	100
埃及	0.0	0	629,235	444,436	71	0
萨尔瓦多	3.8	0	119,927	85,684	71	0
斯威士兰	0.0	0	38,500	9,000	23	100
斐济	0.0	0	119,976	16,421	14	0
格鲁吉亚	0.0	0	67,856	190,822	281	100
加纳	0.0	0	187,006	206,505	110	100
格林纳达	0.0	0	36,187	0	0	100
圭亚那	0.0	0	67,103	13,250	20	0
海地	0.0	0	49,720	59,607	120	100
印度	165.2	0	2,488,148	1,294,054	52	100
印度尼西亚	31.4	0	1,608,721	716,069	45	100
伊朗伊斯兰共和国	6.6	0	647,942	449,008	69	50
牙买加	0.0	0	130,309	51,750	40	
吉尔吉斯斯坦	0.0	0	52,040	0	0	
老挝人民民主共和国	0.0	0	49,024	35,735	73	100
黎巴嫩	1.1	0	436,679	376,273	86	100
马来西亚	0.0	0	832,776	460,539	55	100
马尔代夫	0.0	0	35,000	22,026	63	100
马里	0.0	0	51,440	0	0	0
墨西哥	0.0	0	482,008	151,580	31	100
莫桑比克	0.0	0	73,650	18,509	25	0

国家	2024 年 淘汰量 (ODP 吨) *	2024 年 淘汰量 (二氧化碳 当量吨) *	2024 年 发放的 资金估计数 (美元)	2024 年 发放的资金 (美元)	2024 年发放 资金占 估计数的 百分比	2024 年 完成的 计划项目 百分比**
尼泊尔	0.1	0	19,104	40,685	213	100
尼日利亚	17.4	0	971,210	1,188,161	122	100
巴基斯坦	0.0	0	171,334	42,215	25	
巴拿马	0.0	0	293,803	203,384	69	100
巴拉圭	0.7	0	30,073	48,255	160	
秘鲁	2.0	0	449,263	270,583	60	
菲律宾	0.0	0	220,000	94,567	43	0
摩尔多瓦共和国	0.2	0	12,645	36,968	292	100
南苏丹	0.0	0	21,500	0	0	0
斯里兰卡	0.8	0	210,775	375,007	178	67
东帝汶	0.1	0	1,260	0	0	100
特立尼达和多巴哥	0.0	0	693,670	375,125	54	100
土耳其	0.0	0	72,242	56,837	79	100
乌拉圭	0.0	0	760,736	235,971	31	100
委内瑞拉玻利瓦尔共和国	0.0	0	169,760	68,018	40	
津巴布韦	0.0	0	194,189	261,973	135	50
全球***	0.0	0	0	0		100
总计	401.5	0	19,668,056	18,746,134	95	72

* 2024 年氢氟碳化物相关项目没有淘汰量。

** 针对计划于 2024 年完成的项目。

*** 2024 年核心机组。

附件二

开发计划署截至 2024 年 12 月 31 日的各年份项目执行情况概览

1. 附件二表 1 为各年份项目执行情况概览。¹ 1991 年至 2017 年期间核准的所有项目和活动目前均已完成。

表 1. 各年份项目执行情况

年份	项目数量*			供资 (美元)**			
	核准	完成	完成率%	核准	发放	余额	发放率%
1991 年	15	15	100	1,149,032	1,149,032	0	100
1992 年	67	67	100	8,619,002	8,619,002	0	100
1993 年	57	57	100	13,204,712	13,204,712	0	100
1994 年	148	148	100	49,481,581	49,481,581	0	100
1995 年	117	117	100	29,599,446	29,599,446	0	100
1996 年	83	83	100	27,838,805	27,838,805	0	100
1997 年	188	188	100	44,056,257	44,056,257	0	100
1998 年	172	172	100	31,305,010	31,305,010	0	100
1999 年	204	204	100	35,896,884	35,896,884	0	100
2000 年	149	149	100	31,268,361	31,268,361	0	100
2001 年	179	179	100	35,292,271	35,292,271	0	100
2002 年	117	117	100	44,316,422	44,316,422	0	100
2003 年	64	64	100	36,336,530	36,336,530	0	100
2004 年	69	69	100	24,802,714	24,802,714	0	100
2005 年	53	53	100	29,124,833	29,124,833	0	100
2006 年	62	62	100	15,753,458	15,753,459	-1	100
2007 年	54	54	100	12,142,486	12,142,486	0	100
2008 年	84	84	100	22,873,866	22,873,866	0	100
2009 年	92	92	100	13,217,903	13,217,903	0	100
2010 年	43	43	100	19,567,970	19,567,970	0	100
2011 年	63	63	100	57,415,931	57,415,931	0	100
2012 年	29	29	100	33,818,922	33,818,922	0	100
2013 年	43	43	100	33,958,972	33,958,972	0	100
2014 年	67	67	100	22,560,966	22,561,030	-64	100
2015 年	75	75	100	30,256,568	30,274,905	-18337	100
2016 年	52	52	100	41,574,769	41,536,980	37,789	100
2017 年	43	43	100	35,237,535	35,118,103	119,432	100
2018 年	62	61	98	40,667,384	39,088,774	1,578,610	96
2019 年	41	37	90	10,322,186	9,689,496	632,690	94
2020 年	50	46	92	29,795,896	27,100,573	2,695,323	91
2021 年	66	55	83	24,642,528	20,393,289	4,249,239	83
2022 年	38	23	61	13,768,300	6,537,652	7,230,648	47
2023 年	81	9	11	34,974,872	5,151,863	29,823,009	15
2024 年	75	0	0	32,674,861	189,126	32,485,735	1
共计	2,802	2,620	94	967,517,233	888,683,160	78,834,073	92

* 不包括已关闭或改变执行机构的项目。

** 不包括机构支助费用。

¹ 数据按执行委员会核准项目的年份列报，对所有核准项目（投资和非投资项目）一视同仁（即一个投资项目或 100 万美元的多年期协议供资付款被视为一个项目，与 30,000 美元的国家方案编制相同）。年度总结的关键指标是：已完成项目的百分比、淘汰的 ODP 吨/二氧化碳当量吨和发放资金的百分比。供资分三种类型：执行中、执行后和为追溯融资的项目供资。

附件三

开发计划署进度报告中存在未决问题的进行中项目

国家/项目编号	项目名称	发放率 (%)	现况/问题	建议
巴巴多斯 BAR/PHA/91/INV/33	含氢氯氟烃淘汰管理计划（第二阶段，第一次供资）	0	延迟 18 个月	请开发计划署向第九十八次会议报告该执行拖延项目
刚果民主共和国 DRC/PHA/88/INV/49	含氢氯氟烃淘汰管理计划（第二阶段，第一次供资）	0	延迟 18 个月	请开发计划署向第九十八次会议报告该执行拖延项目
萨尔瓦多 ELS/PHA/91/TAS/45	含氢氯氟烃淘汰管理计划第二阶段执行情况核查报告	0	延迟 18 个月	请开发计划署向第九十八次会议报告该执行拖延项目
斐济 FIJ/PHA/88/INV/39	含氢氯氟烃淘汰管理计划（第二阶段，第一次供资）	0	延迟 12 个月和 18 个月	请开发计划署向第九十八次会议报告该执行拖延项目
斐济 FIJ/PHA/92/TAS/44	含氢氯氟烃淘汰管理计划执行情况核查报告	0	延迟 18 个月	请开发计划署向第九十八次会议报告该执行拖延项目
圭亚那 GUY/PHA/83/INV/32	含氢氯氟烃淘汰管理计划（第二阶段，第二次供资）	20	采购过程中的行政延误	请开发计划署向第九十八次会议报告该执行拖延项目
圭亚那 GUY/PHA/92/INV/36	含氢氯氟烃淘汰管理计划（第二阶段，第三次供资）	0	延迟 18 个月	请开发计划署向第九十八次会议报告该执行拖延项目
印度 IND/PHA/91/INV/495	含氢氯氟烃淘汰管理计划（第三阶段，第一次供资）（空调制造行业）	0	延迟 18 个月	请开发计划署向第九十八次会议报告该执行拖延项目
印度 IND/PHA/91/INV/498	含氢氯氟烃淘汰管理计划（第三阶段，第一次供资）（维修行业）	0	延迟 18 个月	请开发计划署向第九十八次会议报告该执行拖延项目
印度 IND/PHA/91/INV/500	含氢氯氟烃淘汰管理计划（第三阶段，第一次供资）（为中小微企业提供技术援助）	0	延迟 18 个月	请开发计划署向第九十八次会议报告该执行拖延项目
印度尼西亚 IDS/PHA/92/INV/222	含氢氯氟烃淘汰管理计划（第三阶段，第一次供资）	0	延迟 18 个月	请开发计划署向第九十八次会议报告该执行拖延项目
伊朗伊斯兰共和国 IRA/PHA/86/INV/245	含氢氯氟烃淘汰管理计划（第二阶段，第三次供资）（泡沫行业）	0	延迟 18 个月	请开发计划署向第九十八次会议报告该执行拖延项目
伊朗伊斯兰共和国 IRA/PHA/92/INV/266	含氢氯氟烃淘汰管理计划（第二阶段，第四次供资）（商用制冷行业）	0	延迟 18 个月	请开发计划署向第九十八次会议报告该执行拖延项目

国家/项目编号	项目名称	发放率 (%)	现况/问题	建议
伊朗伊斯兰共和国 IRA/PHA/92/INV/267	含氢氯氟烃淘汰管理计划（第二阶段，第四次供资）（泡沫行业）	0	延迟 18 个月	请开发计划署向第九十八次会议报告该执行拖延项目
斯里兰卡 SRL/PHA/86/INV/58	含氢氯氟烃淘汰管理计划（第二阶段，第一次供资）	23	延迟 12 个月	请开发计划署向第九十八次会议报告该执行拖延项目
津巴布韦 ZIM/REF/82/INV/55	将卡普里（哈拉雷中小企业）家用冰箱制造过程中使用的 HFC-134a 转为异丁烷	89	延迟 12 个月	请开发计划署向第九十八次会议报告该执行拖延项目



Empowered lives.
Resilient nations.

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

UNDP Annual Progress and Financial Report Narrative: 1991-2024

97th meeting, 1 –5 December 2025, Montreal, Canada

I. INTRODUCTION

The following narrative is based on a database of 2,802 projects funded by the Multilateral Fund, which contains basic information on their status of implementation as of 31 December 2024. However, some updates of activities which took place during 2025 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\$ 888,683,160 of the US\$ 967,517,239 worth of projects that were approved under the Multilateral Fund since its inception in 1991. These programmes were supposed to eliminate 73,382 ODP T/year, of which 71,416 (97%) were phased out as of 31 December 2024. 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 2024, UNDP was active in 51 countries, of which 35 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 with large consumption sectors, as Brazil, China, India, Indonesia, Malaysia, and Nigeria. In all countries, UNDP provides technical support for countries to meet their targets set forth under the Montreal Protocol and these three key countries are progressing towards their targets. UNDP also acts as the cooperating agency in 18 countries.

Moreover, with the entry into force of the Kigali Amendment for phasing down HFCs from January 1st, 2019, UNDP is also assisting countries act on climate change and implement additional energy efficiency measures, which could help the world avoid even higher temperatures. Difficulties and challenges faced by developing countries in accessing and scaling-up sustainable and efficient cooling technologies are significant at present. Technical and financial support, as well as capacity development to reduce HFCs and improve cooling efficiency are needed broadly in all developing countries. UNDP is supporting 34 countries to prepare and implement their HFC phasedown plans.

UNDP continued to organize in-person, virtual and online-based activities to assist countries in meeting their Montreal Protocol. UNDP organized side events during the Open-Ended Working Group (OEWG) and the Meeting of the Parties (MOP) to share knowledge and best practices of the projects we are involved in. In the margins of the 46th OEWG, UNDP organized a side event on [Integrated Approaches to Promote Energy-Efficient, low-GWP RAC Appliances in Africa](#). This side event provided practical strategies to promote the adoption of efficient, low-GWP RAC appliances through combining multiple measures, including market-based financing instruments, energy-efficiency promotion, circular economy practices, and enhancing partnerships among Ozone Units, Energy Commissions, and national banks. During the 36th MOP, UNDP organized a successful side event on Refrigeration Technicians Training and Mandatory Certification, which described Indonesia's promotion of responsible refrigerant management practices for Sustainable Cooling. Finally, UNDP also organized a side event on [Enhancing Energy Efficiency of the Refrigeration and Cooling Sector](#) at COP29, which highlighted potential near-zero emissions from the cooling sector by 2050 and the need for integrated policy approaches for progress on the Montreal Protocol and the Paris Agreement.

WALKING THE WALK – UNDP GREENING MOONSHOT

The UNDP Montreal Protocol Unit (MPU) contributes towards UNDP's efforts in becoming more green, sustainable and just by reducing Greenhouse Gas (GHG) emissions from its operations across the globe. Having committed to an ambitious Moonshot Target of reducing its corporate carbon footprint from its facilities, vehicles and air travel by 50% by 2030, UNDP has minimized refrigerant emissions from cooling equipment in UNDP offices. Therefore, UNDP's MPU, in collaboration with the UNDP Greening Moonshot Secretariat, developed a [comprehensive updated approach to monitor and manage UNDP's carbon footprint from refrigerant use](#) in its facilities world-wide and started monitoring its cooling-related carbon footprint in more detail as of 2022.

Today, all 149 UNDP main offices report on more than 6,000 cooling assets in 200+ facilities, ranging from air-conditioned vehicles, fridges of various sizes, from small residential and commercial assets to bigger rooftop chillers. Preliminary data shows that for 2024, leakage of refrigerants contributes to over 2,000 tonnes of CO₂e emissions – about 4% of UNDP's total operational carbon footprint. Data also revealed that a large portion of the reported refrigerants are currently classified as having a "high carbon impact" (GWP of 800+). UNDP is committed to prioritize the procurement of 'greener' cooling equipment and avoid equipment with high global warming impact where feasible going forward - equipment using low or no GWP refrigerants on average also use less energy, which further contributes to reducing the carbon footprint of UNDP operations while saving energy costs.

Due to its success, other UN agencies are also now adopting this methodology to reduce the climate impact of their cooling needs.

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 2024, UNDP had a total of 2,802 approved projects under the Multilateral Fund, of which 100 had been canceled or transferred. Of the 2,802 remaining projects, 2,619, or 93% have been completed. They are set to eliminate 73,382 ODP T/year, of which 70,187 ODP T (97%) have already been eliminated.

As of 31 December 2024, UNDP had received cumulative net project approvals of US\$ 967,517,239 (excluding support costs). Of these, UNDP, as of end-2024, had disbursed US\$ 888,683,160 excluding all obligations. This translates to 92% of approved funding. Furthermore, an additional US\$ of obligations were outstanding as of end-December 2024, representing orders placed but final payments not yet made.

B. Interest and Adjustments

Interest income earned on MLF resources in 2024 is US\$ 3,224,552. This amount will be reported in the 2024 final financial statement to be submitted to the MLF Treasurer by the agreed deadline of 30 September. The difference between the provisional and final 2024 interest income was adjusted against UNDP project approvals at the 94th ExCom meeting.

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% to technical assistance projects, 7% to institutional strengthening and 3% to project preparation activities. The remaining 2% was dedicated to country programmes and demonstration/training activities.

III. GLOBAL AND REGIONAL PROJECT HIGHLIGHTS

A. Global Projects: There is one ongoing global programme under implementation by UNDP:

GLO/SEV/95/TAS/374, the Core unit support (2025) programme approved at the 95th 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 2024

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 XII of the report

of the 93rd meeting of the Executive Committee contained UNDP's 2024 targets. One can see from the table below that UNDP fully met 2 out of 9 of its targets and that its score amounts to 89%.

Category of performance indicator	Item	Weight	2024 target	UNDP 2024 Achieved	Comments
1. Approval	Number of tranches approved vs. those planned*	10	38	30	
2. Approval	Number of projects/activities approved vs. those planned (including project preparation activities)**	10	33	29	
3. Implementation	Funds disbursed	15	26,752,712	18,742,767	
4. Implementation	ODS phase-out for the tranche when the next tranche is approved vs. those planned per business plans	25	271.84	260.0	
5. Implementation	Project completion vs. planned in progress reports for all activities (excluding project preparation)	20	45	41	
6. Administrative	The extent to which projects are financially completed 12 months after project completion	10	48 (70% of 68 projects)	48	
7. Administrative	Timely submission of project completion reports vs. those agreed	5	100% of those due (1)	100%	5 MYA PCRs and 1 individual PCR submitted
8. Administrative	Timely submission of progress reports and responses unless otherwise agreed	5	On time	On time	
TOTAL		100		89	

*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.

B. Cumulative completed investment projects (Table 4)

As Table 4: Cumulative completed investment projects shows, a total of 1,332 investment projects have been completed, with a corresponding elimination of 64,673 ODP T. Of the US\$ 712,472,553 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 34 months from approval to completion. The overall cost-effectiveness of the projects to the Fund was \$11.02 /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 706 non-investment projects excluding project preparation assistance. Of the US\$ 133,692,420 in their approved budgets, 99% has been disbursed. It took an average of 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 105 ongoing investment projects in the sectors of Phase-out Plans and Foam, with corresponding budgets of US\$ 72,311,554. Of this amount, 21% has been disbursed. It takes an average of 37 months from approval to the estimated project completion. 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 40 ongoing non-investment projects excluding project preparation assistance. Of the US\$ 13,104,765 in approved budgets, 12% has been disbursed. It takes an average of 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. 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 2024.

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 38 PRP projects listed with US\$ 2,706,500 in associated approvals, 17% has been disbursed.

VI. DESCRIPTION OF KEY ONGOING ACTIVITIES

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

- A. Kigali Implementation Plan (KIP) Preparation
- B. Energy Efficiency Activities
- C. Preparation for national inventories of banks of waste-controlled substances
- D. Gender Mainstreaming Results Achieved
- E. Country Highlights

A. KIP Preparation

As of the end of 2024, UNDP has received approval from the Multilateral Fund to provide support to 34 countries to prepare their Kigali Implementation Plans as the lead or cooperating agency. Of these countries, 22 countries have submitted their Stage I Kigali Implementation Plans. For more details, please see the table below.

Country	MLF Number	Project Title	KIP Status
Angola	ANG/KIP/88/PRP/24	Preparation of Kigali HFC implementation plan	In process
Bangladesh	BGD/KIP/90/PRP/58	Preparation of Kigali HFC implementation plan	In process
Bhutan	BHU/KIP/87/PRP/29	Preparation of Kigali HFC implementation plan	In process
Belize	BZE/KIP/94/PRP/49	Preparation of Kigali HFC implementation plan	In process
Brazil	BRA/KIP/93/PRP/333	Preparation of Kigali HFC implementation plan	In process
Cambodia	KAM/KIP/88/PRP/40	Preparation of Kigali HFC implementation plan	Submitted
Chile	CHI/KIP/88/PRP/207	Preparation of Kigali HFC implementation plan	Submitted

Colombia	COL/KIP/87/PRP/110	Preparation of Kigali HFC implementation plan	Submitted
Costa Rica	COS/KIP/87/PRP/63	Preparation of Kigali HFC implementation plan	Submitted
Cuba	CUB/KIP/87/PRP/65	Preparation of Kigali HFC implementation plan	Submitted
Dominican Republic	DOM/KIP/87/PRP/73	Preparation of Kigali HFC implementation plan	Submitted
Egypt	EGY/KIP/93/PRP/156	Preparation of Kigali HFC implementation plan	In process
El Salvador	ELS/KIP/88/PRP/44	Preparation of Kigali HFC implementation plan	Submitted
Eswatini	SWA/KIP/87/PRP/33	Preparation of Kigali HFC implementation plan	Submitted
Fiji	FIJ/KIP/88/PRP/41	Preparation of Kigali HFC implementation plan	In process
Ghana	GHA/KIP/87/PRP/51	Preparation of Kigali HFC implementation plan	Submitted
Grenada	GRN/KIP/88/PRP/28	Preparation of Kigali HFC implementation plan	Submitted
Kyrgyzstan	KYR/KIP/87/PRP/45	Preparation of Kigali HFC implementation plan	Submitted
Laos PDR	LAO/KIP/87/PRP/39	Preparation of Kigali HFC implementation plan	Submitted
Lebanon	LEB/KIP/87/PRP/98	Preparation of Kigali HFC implementation plan	In process
Maldives	MDV/KIP/87/PRP/36	Preparation of Kigali HFC implementation plan	In process
Mali	MLI/KIP/93/PRP/47	Preparation of Kigali HFC implementation plan	In process
Mexico	MEX/KIP/87/PRP/195	Preparation of Kigali HFC implementation plan	Submitted
Mozambique	MOZ/KIP/90/PRP/36	Preparation of Kigali HFC implementation plan	Submitted
Nigeria	NIR/KIP/87/PRP/156	Preparation of Kigali HFC implementation plan	Submitted
Panama	PAN/KIP/87/PRP/53	Preparation of Kigali HFC implementation plan	Submitted
Paraguay	PAR/KIP/87/PRP/42	Preparation of Kigali HFC implementation plan	Submitted
Peru	PER/KIP/87/PRP/59	Preparation of Kigali HFC implementation plan	Submitted
Philippines	PHI/KIP/91/PRP/109	Preparation of Kigali HFC implementation plan	In process
Sri Lanka	SRL/KIP/87/PRP/59	Preparation of Kigali HFC implementation plan	In process
Trinidad & Tobago	TRI/KIP/87/PRP/40	Preparation of Kigali HFC implementation plan	Submitted
Turkiye	TUR/KIP/90/PRP/112	Preparation of Kigali HFC implementation plan	Submitted
Uruguay	URU/KIP/87/PRP/77	Preparation of Kigali HFC implementation plan	Submitted
Zimbabwe	ZIM/KIP/91/PRP/66	Preparation of Kigali HFC implementation plan	Submitted

B. Energy Efficiency Activities

Energy efficiency has become an increasingly important co-benefit of projects supported under the MLF. As countries phase out harmful substances and transition to low-GWP alternatives, the MLF has recognized the opportunity to simultaneously improve energy performance, particularly in the RAC sector.

Below are the key ExCom decisions on energy efficiency:

- **ExCom Decision 89/6** allows countries to consider activities for inclusion in HPMPs for LVCs for the introduction of alternatives to HCFCs with low or zero GWP and for maintaining energy efficiency in the refrigeration servicing sector.
- **ExCom Decision 91/65** sets out criteria for pilot projects to maintain and/or enhance the energy efficiency of replacement technologies and equipment in the context of the HFC phase-down.
- **ExCom Decision 92/37** addresses the level and modalities of funding to support HFC phase-down activities in the refrigeration servicing sector, in line with the Kigali Amendment to the Montreal

Protocol.

- **ExCom Decision 94/60** creates an operational framework and strengthens the integration of energy efficiency measures within HFC phase-down activities supported by the MLF under the Kigali Amendment.
- **ExCom Decisions 95/87 and 96/31** establishes a funding window of US \$40 million for two energy-efficiency end-user projects using a revolving fund mechanism.

Below is a list of UNDP's approvals on Energy Efficiency as of 2025.

Country	Title
Barbados	HCFC phase-out management plan (stage II): Additional activities to maintain energy efficiency in refrigeration servicing sector (decision 89/6)
Chile	Pilot project to maintain and/or enhance the energy efficiency of replacement technologies and equipment in the context of HFC phase-down (decision 91/65)
Chile	Preparation of a pilot project for the use of R-744 (carbon dioxide) as an alternative refrigerant in heat pumps in industrial refrigeration (decision 91/65)
China	Preparation for a pilot project on energy efficiency (decision 91/65)
Colombia	Pilot project to maintain and/or enhance the energy efficiency of replacement technologies and equipment in the context of HFC phase-down (non-investment activities) (decision 91/65)
Costa Rica	Pilot project to demonstrate a transcritical CO2 refrigeration system in a supermarket as a low-GWP energy-efficient technology in the context of HFC phase-down (non-investment activities) (decision 91/65)
Costa Rica	HCFC phase-out management plan (stage II): Additional activities to maintain energy efficiency in refrigeration servicing sector (decision 89/6)
Cuba	HCFC phase-out management plan (stage II) (Additional activities to maintain energy efficiency in refrigeration servicing sector (decision 89/6))
Cuba	Pilot project to maintain and/or enhance the energy efficiency of replacement technologies and equipment in the context of HFC phase-down (decision 91/65)
El Salvador	Pilot project to maintain and/or enhance the energy efficiency of replacement technologies and equipment in the context of HFC phase-down (non-investment activities) (decision 91/65)
Georgia	HCFC phase-out management plan (stage II): Additional activities to maintain energy efficiency in refrigeration servicing sector (decision 89/6)
Ghana	Preparation of a pilot project to maintain and/or enhance the energy efficiency of replacement technologies and equipment in the context of HFC phase-down (decision 91/65)
Global	Preparation for a pilot project for digital monitoring and management tools to enhance energy efficiency and reduce emission of greenhouse gases in the space cooling and cold chain sectors in Colombia, Lebanon, and Trinidad and Tobago (91/65)
Global	Preparation for Energy Efficiency Revolving Fund in Colombia, Ghana, and Jordan
Guyana	Additional activities to maintain energy efficiency for the servicing sector under decision 89/6(b)
Haiti	HCFC phase-out management plan (stage II): Additional activities to maintain energy efficiency in refrigeration servicing sector (decision 89/6)
India	Conversion of the manufacturing of commercial refrigeration appliances at Rockwell Industries Limited from HFC-134a to propane (R-290) (technical assistance to enhance the energy efficiency of the converted equipment) (decision 91/65)
Jamaica	HCFC phase-out management plan (stage II): Additional activities to maintain energy efficiency in refrigeration servicing sector (decision 89/6)
Paraguay	HCFC phase-out management plan (stage II) (Additional activities to maintain energy efficiency in refrigeration servicing sector (decision 89/6))
Sri Lanka	HCFC phase-out management plan (stage II) (Additional activities to maintain energy efficiency in refrigeration servicing sector (decision 89/6))
Sri Lanka	Pilot project to maintain and/or enhance the energy efficiency of replacement technologies and equipment in the context of HFC phase-down (non-investment activities) (91/65)
Uruguay	Pilot project to maintain and/or enhance the energy efficiency of technologies in the commercial

	refrigeration and residential AC sectors in the context of HFC phase-down (non investment activities) (decision 91/65)
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UNDP has been making efforts to support integrated interventions for the implementation of the Kigali Amendment and improving energy efficiency through collaboration with other partners. Two impactful regional initiatives were developed and implemented. One is the Cool-Up Programme¹ funded by IKI for four countries mainly in the MINA region in which UNDP provided development services collaborating with other partners. The other is the AGORA² project for Nigeria and Ghana funded by FFEM for an integrated approach for sustainable cooling. These projects will complement the implementation of the MLF projects in concerned countries particularly for energy efficiency and market transformation to natural refrigerants in end-user sectors. The accumulated knowledge and experiences from the development and implementation of these initiatives provide insights to distribute and replicate successful practices through the MLF portfolio.

C. Preparation for inventory of banks of used or unwanted controlled substances and a plan for the collection, transport and disposal of such substances

ExCom Decision 91/66 sets forth criteria to fund inventories of banks of used or unwanted controlled substances and a plan for the collection, transport and disposal of such substances. UNDP's approvals as of 2025 include:

Country	Title
Chile	Preparation of national inventory of banks of waste-controlled substances and development o national plan for management of these substances
Cuba	Preparation of national inventory of banks of waste-controlled substances and development o national plan for management of these substances
Egypt	Preparation of national inventory of banks of waste-controlled substances and development o national plan for management of these substances
Indonesia	Preparation of national inventory of banks of waste-controlled substances and development o national plan for management of these substances
Jamaica	Preparation of national inventory of banks of waste-controlled substances and development o national plan for management of these substances
Panama	Preparation of national inventory of banks of waste-controlled substances and development o national plan for management of these substances
Peru	Preparation of national inventory of banks of waste-controlled substances and development o national plan for management of these substances
Trinidad & Tobago	Preparation of national inventory of banks of waste-controlled substances and development o national plan for management of these substances

D. Gender Mainstreaming Results Achieved

All projects implemented by UNDP follow [UNDP's Gender Equality Strategy](#), while also following their national policies on gender. UNDP's projects organize consultations with relevant associations, networks, and stakeholders, and include data collection disaggregated by gender and the promotion of gender mainstreaming. UNDP's country offices track their performance on gender equality through the flagship Gender Seal programme, which measures progress on wide-ranging criteria, including the impact of UNDP's interventions on the ground.

Gender mainstreaming activities vary from country to country; however, the strategies deployed so far have resulted in an increase of women's participation in courses and meetings organized under the Montreal Protocol portfolio. Most projects now include gender mainstreaming activities, such as TORs with a specific clause encouraging men and women to apply and tracking of the gender composition of meeting participants.

¹ <https://www.coolupprogramme.org/>

² Agora: Abating Greenhouse Gas Emissions from Obsolete RAC equipmenttiseurs domestiques

Specific highlights include the following:



In **China**, UNDP collaborated with the China Refrigeration and Air Conditioning Industry College Student Science and Technology Competition to engage youth and empower young women in sustainable practices within the refrigeration sector. The initiative integrates climate education and gender-sensitive approaches to foster innovation, practical skills, and awareness of environmental protocols among students. The program highlights China's progress in implementing the Montreal Protocol, emphasizing the importance of youth involvement for future industry compliance and

environmental protection efforts. Despite women being underrepresented globally in refrigeration, China shows higher female participation, especially in design and research roles. But barriers still exist in relation to the professional promotion opportunities, as well as issues related to work-life balance and training access remain key hurdles, especially in technical roles. Therefore, UNDP China also collaborated with the China Refrigeration and Air Conditioning Industry College Student Science and Technology Competition to promote visibility, mentorship, and career development for young women to address professional barriers in the sector.

In **Colombia**, as part of the actions aimed at complying with the MLF Gender Operational Policy and promoting the integration of the gender perspective in funded projects, a nationwide data collection was carried out to identify and characterize women who play roles in the value chain of the RAC sector. Subsequently, the annual meeting of women in the RAC sector was held, with the central theme being the signing of the expression of interest for the formation of the RAC Women's Network in Colombia. Additionally, a virtual event was organized for women in the RAC sector as part of the celebration of International Women's Day, during which topics such as public policy on women and gender equity, prioritization of women's rights, and access to justice pathways were addressed. Finally, a proposed activity plan was prepared for the integration of the gender perspective in the Stage I KIP.

In **Mali**, two sensitization workshops were held in Bamako, training 90 participants on best refrigeration practices as well as the importance of Customs enforcement in ensuring the country's compliance to the Montreal Protocol. Notably, gender inclusion was encouraging, with 21 women participating, representing 23% overall. The RAC technicians' workshop saw 34% female participation, a promising sign in a traditionally male-dominated field. Although the Customs officers' session had lower female representation (10%), the overall results reflect growing efforts toward gender balance. These outcomes highlight positive strides in inclusive capacity building and offer a strong foundation for future gender-responsive programming in Mali.

Finally, data collection for KIP preparation has been gender-sensitive and the collected data includes the number of technicians, disaggregated by gender, sector and subsector. Furthermore, while UNDP is developing KIPs and new stages of HPMPs for countries, lessons learnt from past HPMPs on gender mainstreaming are extensively considered. The key challenges include the lack of baseline data on gender and the limited involvement of women in the RAC sector.

E. Country Highlights (January – December 2024)

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.

Mandatory Certification System Experience in Georgia

Following the ratification of the Kigali Amendment in Georgia on 5 May 2023, a package of legislative changes was prepared and adopted on 16 June 2023 with the support of the Stage II HPMP. These changes entered into force gradually, starting at the end of 2023 and continuing until January 2024, introducing new mandatory requirements for environmental inspectors, customs officers, owners of ODS-using equipment, business sector representatives, and RAC service providers. In addition, the use of the web-based electronic reporting and permit system became mandatory.

The amendments aim to strengthen the national refrigerant management system, including the management of HFCs, and to improve service quality in the heat pump, air-conditioning, and refrigeration sectors. Key provisions include:

- Introduction of a mandatory certification system for RAC service technicians and owners of ODS-using equipment. The certification process ensures that, in addition to theoretical knowledge, certified technicians possess the necessary practical skills.
- Establishment of a web-based electronic refrigerant management system (ERMS) for monitoring refrigerants, including HFCs. Owners of stationary equipment containing 3 kg or more of a substance listed under the Montreal Protocol, as well as certified personnel, are required to maintain an electronic log.

In Georgia, the Legal Entity of Public Law “Environmental Information and Education Centre” under the Ministry of Environmental Protection and Agriculture is the authority responsible for technician certification. To date, approximately 1,100 technicians and 400 equipment owners have been certified. More than one year of implementation has demonstrated the need to diversify certification examination content by sector. This will ensure that technicians working on vehicle air conditioner repairs, domestic appliance servicing, industrial chiller maintenance, and individuals involved in the trade of ozone-depleting substances undertake sector-specific tests with appropriate levels of complexity. Work is underway to introduce differentiated testing, which is planned to come into effect next year.

Advancing Climate Action & Ozone Protection with the Transformation of the PU Foam Sector in Malaysia

Under the Stage II HPMP, Malaysia committed to phase-out HCFCs in its PU Foam Sector by 2022. The Stage II HPMP was approved in November 2016, at a total funding level of US \$ 6,138,063 and the country agreed to phase-out 146.24 ODP tons, constituting 50% of its baseline.



HPMP Stage II (2017–2024): Key Achievements

The Stage II HPMP targeted a complete phase-out of HCFCs in the foam sector covering 77 enterprises, including 67 eligible to receive funding from the MLF. It was agreed that non-eligible enterprises would convert with their own resources. The HPMP provided technical assistance and conversion activities to 67 eligible foam companies, adopting pure hydrocarbons, pre-blended hydrocarbons, methylal and HFO as alternative blowing agents. Of these, 57 were MSMEs.

Challenges for Micro and Small Enterprises

However, in progressing with the implementation of conversion activities at the MSMEs the project implementation team identified several issues that related to the supply chain of HFOs in Malaysia. During implementation, requests for a change of technology from HFOs to other low-GWP blowing agents for the SMEs were approved by the Executive Committee.

Particularly, 18 MSMEs faced great financial difficulties in the technological phase-in. On one hand, conversion to flammable blowing agents was not feasible due to “heavy” capital investment requirements in safety, but the adoption of HFOs was also not a sustainable solution given the very high operational costs and the unstable supply chain. Water-blown systems were also considered in the technology choice scenarios, however, due to insulation performance requirements, the tests carried out with available water-blown systems in Malaysia underperformed in several technical requirements, and additional high costs in molds replacement/adaptation as well as much improved operation practices and environment would be required, increasing the capital cost of the project. Therefore, 15 companies decided to adopt (high-GWP) HFCs and withdrew from the Stage II HPMP.

Sustainability of the Phase-out

A ban on the import of HCFC-141b pure and pre-blended in polyols was placed for 1 January 2023 (accounting for delays in implementation due to the COVID-19 pandemic), while the Stage III HPMP is supporting the Government of Malaysia to strengthen its institutional capabilities to identify blowing agents mixed in polyols to improve controls and sustain the phase-out.



Empowering Sri Lanka’s Cooling Efficiency Future with support from MLF

With support from the funding window providing technical support for energy efficiency in different sectors/applications of LVCs under ExCom Decision 89/6, UNDP supported a delegation of nine Sri Lankan experts from key institutions (including the Sri Lanka Sustainable Energy Authority, National Ozone Unit, and Sri Lanka Standards Institute) to undertake a transformative study tour in Japan. This mission, coordinated with the Japan’s Overseas Environmental Cooperation Center (OECC), was part of a

broader initiative to enhance energy efficiency in Sri Lanka’s RAC sector.

Why This Mission Matters?

Sri Lanka is at a pivotal moment in its energy transition. With growing demand for cooling technologies, the country faces the dual challenge of reducing greenhouse gas emissions and improving energy performance. The study tour focused on:

- Learning about the Japanese experiences in setting MEPS and energy labelling—critical tools for promoting energy-efficient appliances.
- Exposing the Sri Lankan Delegation to low-GWP and zero-ODP refrigerants solutions in use in Japan, supporting Sri Lanka’s commitment to phasing down harmful substances.
- Learning from Japan’s advanced testing laboratories, E-waste (EOL refrigerants and equipment) management systems, and the innovative “Top Runner” program.

Key Achievements

- Knowledge Transfer: Participants gained hands-on insights into international best practices in MEPS, energy labelling, refrigerant lifecycle management, and policy implementation.
- Strategic Collaboration: The mission fostered inter-agency cooperation and opened pathways for future partnerships with between Sri Lankan and Japanese institutions.
- Actionable Outcomes: Ideas emerged for enhancing data collection, look into opportunities to expand equipment testing, and raising public awareness—laying the groundwork for Sri Lanka’s energy efficiency roadmap.

The mission also provided additional insights for the delegation to further consider actions that could promote energy-efficient cooling technologies; reduce CO₂ emissions through better standards and labelling and strengthen institutional capacity for sustainable development. The Sri Lankan delegation highlighted the

project’s relevance, depth, and practical value and participants expressed strong interest in further technical demonstrations and deeper collaboration.

Energy Efficiency through the Development of Low-Carbon RAC Technologies in Trinidad and Tobago

The “Energy Efficiency through the Development of Low-Carbon RAC Technologies” project in Trinidad and Tobago has successfully reshaped the country’s sustainable cooling landscape. A key milestone has been the establishment of three pioneering District Cooling pilot sites—TOSL Engineering in Marbella, Gasparillo Mall, and the Point Lisas Business Park—the first of their kind in Trinidad and Tobago. These facilities not only contribute directly to reducing GHG emissions but also provide tangible demonstrations of how modern, centralized cooling infrastructure can support national climate targets.

The completion of these sites represents a landmark achievement for both the project and the country, offering a model of technical feasibility and commercial viability for innovative energy-efficient cooling solutions.

Equally significant has been the strong commitment of the private sector, whose active engagement has been instrumental in realizing these outcomes. Their leadership has built a compelling business case that is expected to accelerate market transformation and inspire replication of best practices across the region.

Importance of designing effective HFC Quota Systems for the implementation of the Kigali Amendment

The HFC quota system under the Kigali Amendment is crucial for controlling HFC imports in Article 5 countries to ensure compliance with the Montreal Protocol. Managing the various substances and blends, measured in CO2 equivalents, is more complex than in earlier phases. Therefore, a well-designed quota system is essential to facilitate the transition to lower GWP alternatives. Over the past few years, UNDP has developed numerous webinars and training sessions to help these countries design effective HFC quota systems and promote regional learning and collaboration for successful implementation.

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

A. Meetings Attended by UNDP in 2024

The UNDP Montreal Protocol team carried out the following missions in 2024. In addition to this, UNDP country offices also carried out field visits in countries with MLF programmes.

From	To	Country	Details
6-Feb-24	7-Feb-24	Malaysia	Policy Support and Programme Oversight
13-Feb-24	17-Feb-24	Indonesia	Policy Support and Programme Oversight
3-Mar-24	6-Mar-24	Brazil	Policy Support and Programme Oversight
11-Mar-24	14-Mar-24	Canada	MLF Inter-Agency Coordination Meeting
12-Mar-24	16-Mar-24	China	Policy Support and Programme Oversight
25-Mar-24	29-Mar-24	Indonesia	Policy Support and Programme Oversight
8-Apr-24	12-Apr-24	China	Policy Support and Programme Oversight
15-Apr-24	19-Apr-24	Fiji	Policy Support and Programme Oversight
15-Apr-24	20-Apr-24	Peru	Policy Support and Programme Oversight
24-Apr-24	27-Apr-24	Albania	ECA Network and Enforcement Meeting
20-May-24	24-May-24	China	South and South East Asia Joint Network Meeting
26-May-24	30-May-24	Canada	MLF 94th Executive Meeting
2-Jun-24	7-Jun-24	Mexico	Policy Support and Programme Oversight
7-Jun-24	15-Jun-24	Mozambique	Network Meeting of Anglophone African Ozone Officers
9-Jun-24	13-Jun-24	Bangladesh	Policy Support and Programme Oversight
6-Jul-24	13-Jul-24	Canada	46th Open Ended Working Group (OEWG) meeting of the Montreal Protocol

21-Jul-24	25-Jul-24	China	Policy Support and Programme Oversight
28-Jul-24	3-Aug-24	Chile	LAC Ozone Network meeting
2-Sep-24	5-Sep-24	Indonesia	Policy Support and Programme Oversight
9-Sep-24	13-Sep-24	Canada	MLF Inter Agency Coordination Meeting.
15-Sep-24	18-Sep-24	Columbia	Policy Support and Programme Oversight
18-Sep-24	20-Sep-24	Brazil	Policy Support and Programme Oversight
23-Sep-24	27-Sep-24	India	Joint South and West Asia Network Meeting
7-Oct-24	11-Oct-24	Bangladesh	Policy Support and Programme Oversight
24-Oct-24	8-Nov-24	Bangkok	36th Meeting of the Parties to the Montreal Protocol
4-Nov-24	8-Nov-24	India	Policy Support and Programme Oversight
13-Nov-24	16-Nov-24	Azerbaijan	COP29 - Joint Cooling Pavillion and Side Event
13-Nov-24	15-Nov-24	Philippines	SEA and PIC Joint Network Meeting
2-Dec-24	6-Dec-24	Philippines	Policy Support and Programme Oversight
3-Dec-24	9-Dec-24	Canada	MLF 95th Executive Meeting
11-Dec-24	13-Dec-24	Serbia	Europe and Central Asia (ECA) Ozone Network Meeting
17-Dec-24	20-Dec-24	Sri Lanka	Policy Support and Programme Oversight

B. Other Issues

None.