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执行蒙特利尔议定书
多边基金执行委员会
第九十六次会议
2025年5月26日至30日，蒙特利尔
临时议程¹项目9(c)和9(d)

世界银行 2025 年工作方案

¹ UNEP/OzL.Pro/ExCom/96/1。

多边基金秘书处的评论和建议

1. 世界银行请求执行委员会批准 1,358,532 美元，外加 95,097 美元的机构支助费用，用于表 1 所列 2025 年工作方案。提交的申请附于本文件之后。

表 1：世界银行 2025 年工作方案

国家	活动/项目	申请数额 (美元)	建议数额 (美元)
A 部分：建议一揽子核准的活动			
A1：延长体制强化项目			
泰国	延长体制强化项目 (第十一期)	918,532	918,532
	A1 小计	918,532	918,532
	机构支助费用	64,297	64,297
	A1 共计	982,829	982,829
B 部分：建议单独审议的活动			
B1：项目编制 - 结合逐步减少氢氟碳化物在制冷制造行业提高能效			
项目编制 - 结合逐步减少氢氟碳化物在制冷制造行业提高能效 (第 94/60 号决定)			
印度尼西亚	编制一个结合逐步减少氢氟碳化物在家用制冷制造业提高能效的项目	40,000	*
	B1 小计	40,000	*
	机构支助费用	2,800	*
	B1 共计	42,800	*
B2：项目编制 - 为最后用户建立一个能效循环基金(第 95/87 号决定)			
格林纳达	编制为维修行业的最后用户建立一个循环基金的项目	100,000	*
墨西哥	编制为公共部门的最后用户建立一个循环基金的项目	100,000	*
泰国	编制为住宅空调、移动空调和商用空调以及家用制冷行业的最后用户建立一个循环基金的项目	100,000	*
土耳其	编制为旅游行业的最后用户建立一个循环基金的项目	100,000	*
	B2 小计	400,000	*
	机构支助费用	28,000	*
	B2 共计	428,000	*
	A1、B1、B2 共计	1,358,532	918,532
	A1、B1、B2 的机构支助费用	95,097	64,297
	总计	1,453,629	982,829

* 建议单独审议。

A 部分：建议一揽子核准的活动

A1：延长体制强化项目

项目说明

2. 世界银行提交了延长表 1 A1 部分所列国家的体制强化项目的申请。本文件附件一载有关于该项目的说明。

秘书处的评论

3. 秘书处根据关于供资条件和供资水平的准则²和相关决定审查了延长体制强化项目的申请。参照上个阶段的原始工作计划、国家方案和第 7 条数据、有关国家的氟氯烃淘汰管理计划的最新执行情况报告、有关机构的进度报告以及缔约方大会的任何相关决定对申请进行了交叉核对。秘书处注意到，有关国家已提交其 2023 年国家方案和第 7 条数据，遵守了《蒙特利尔议定书》规定的控制目标，且报告的氟氯烃年度消费量未超过该国与执行委员会签订的氟氯烃淘汰管理计划协定中规定的年度允许消费量上限。此外，提交的申请还根据第 91/63 号决定(b)段列入了对绩效指标、项目风险以及体制强化目标的可持续性和落实情况的评估。

秘书处建议

4. 秘书处建议一揽子核准泰国的延长体制强化项目申请，供资数额如本文件表 1 A1 部分所示。执行委员会不妨向上述国家政府转达本文件附件二中的意见。

B 部分：建议单独审议的活动

B1：项目编制 - 结合逐步减少氢氟碳化物在制冷制造行业提高能效 (第 94/60 号决定)

项目说明

5. 世界银行提交了一份项目编制供资申请，用于编制一个在印度尼西亚结合逐步减少氢氟碳化物提高家用冰箱制造行业的能效的项目，如表 1 B1 部分所示。该申请是根据第 94/60 号决定提交的。

6. 该项目编制申请的重点，是结合基加利执行计划第一阶段的一个家用制冷改造项目（将生产线从 HFC-134a 改造为 R-600a）提高能效，该改造项目已提交本次会议。印度尼西亚的家用制冷设备制造包括家用冰箱、立式冰柜、展示柜和饮水机。该项目的总体目标是将家用制冷设备的能效提高 10%至 20%。项目编制活动包括：企业产能需求评估；与该区域的技术提供商/供应商的协商；行业层面的数据收集和分析；项目提案的设计和制定。

7. 印度尼西亚能源和矿产资源部已颁布法令，为家用冰箱、展示柜和饮水机规定强制性的最低能效标准（MEPS）。

秘书处的评论

8. 秘书处审查了在改造家用制冷设备的制造，使其不再使用氢氟碳化物的过程中提高能效的项目编制供资申请，并注意到该项目符合第 94/60 号决定规定的标准，而且已把这些企业纳入提交本次会议的在基加利执行计划第一阶段从使用氢氟碳化物技术改为使用低全球升温潜能值技术的拟议改造活动。

² 第 91/63 号决定：(b)核准结束报告和延长体制强化供资申请的修订后格式及相应的绩效指标；(c)请第 5 条国家自 2023 年执行委员会第一次会议起，通过双边机构和执行机构使所有延长体制强化供资申请使用上文(b)分段所述修订后格式。

9. 秘书处注意到，世界银行最初申请为印度尼西亚的项目编制工作提供 80,000 美元。然而，世界银行经与秘书处讨论，根据 UNEP/OzL.Pro/ExCom/95/87 号文件第 72(b)段将申请数额修改为 40,000 美元。

10. 秘书处还注意到，上述项目编制供资申请所包括的活动与根据第 95/87 号决定制定能效组成部分所需要的活动相一致。

秘书处的建议

11. 执行委员会不妨考虑核准世界银行关于编制项目，在印度尼西亚的家用制冷设备制造中提高能效的申请，供资数额为 40,000 美元，外加 2,800 美元的机构支助费用。

B2：项目编制 – 为最后用户建立一个能效循环基金（第 95/87 号决定）

项目说明

12. 世界银行提交了项目编制申请，旨在为四个国家的最后用户建立能效循环基金（EERF），以加速各行业向节能可持续制冷的过渡，如表 1 B2 部分所示。提交的申请符合第 95/87 号决定(g)段的规定。³

13. 表 2 开列了申请为其编制项目，用于建立能效循环基金的四个国家的概况。

表 2：申请项目编制资金，用于建立能效循环基金的国家概况

详细说明		格林纳达	墨西哥	泰国	土耳其
政府是否致函予以认可		是	是	是	是
氢氟碳化物基准数 (二氧化碳当量吨)		52,815	76,982,664	59,270,951	37,117,410
2023 年用于维修的氢氟碳化物消费量*	公吨	13.11	16,535	不详	** 8,557
	二氧化碳当量吨	29,643	33,436,369	不详	** 21,371,715
核准基加利执行计划的会议		第九十三次	第九十三次	尚未核准	第九十五次
以前是否曾采用能效循环基金		是	是	是	是
拟议设立循环基金，帮助支付更换现有设备和安装新设备的费用的行业***		在四个已确定的地点安装海水空调 (SWAC) 系统，其他地点将在项目编制期间确定。	商用和公共部门建筑的制冷和大中型空调装置。	住宅部门和商业部门的消费者和最后用户，包括商用冰箱和冰柜、家用空调以及工业和商业建筑中使用的大型空调系统。	公共建筑的供暖、通风和空调 (HVAC) 系统，包括空调机和热泵，是综合能效干预措施的一部分。
申请的编制资金 (美元)		100,000	100,000	100,000	100,000

* 国家方案执行情况报告。

** 上报的维修行业氢氟碳化物消费量包括为土耳其在“维修行业”和“其他”之中报告的总数量，原因是后者可能也包括维修行业的消费量。

*** 将在循环基金项目编制期间进行行业分析和确定各行业的优先次序。

³ 为编制不超过五个项目提供资金，每个项目不超过 100,000 美元，且有一项谅解是，将把这些提案提交第九十六次会议，并且仅在其中挑选两个项目使用(f)分段所述供资窗口。

14. 世界银行集团在能效项目融资方面拥有丰富的经验。其工作重点是协助各国制定有效政策、建设体制能力、筹备战略投资和建立此类循环基金的机制。

15. 两个世界银行项目通过世行的臭氧信托基金（该基金负责向各国输送多边基金的资助）向制冷行业的最后用户（冷水机组和工业制冷设备的所有者）提供了优惠贷款。在土耳其，该项目于 1990 年代在一个部分赠款-贷款计划之下建立了某种类型的循环基金；在泰国，该项目通过设立循环基金来利用全球环境基金的融资，实现能效协同效益。该项目于 2005 年完成融资，并有效地向相关行业展示了新技术和所实现的大幅度节能。然而，由于示范项目的成功，私人资本和商业贷款开始进入，设备所有者因此主要是通过其他方式更换冷水机组。

16. 世界银行已提供援助，在保加利亚、匈牙利、斯洛文尼亚、亚美尼亚、乌兹别克斯坦和科索沃为难以调动私人资本的市场区间建立和实施能效循环基金。世界银行有能力与项目客户一道有效地制定计划，用于应对共同的以及各国特有的技术、资金和政策障碍，并管理与私人或公共融资相关的金融风险，从而能够实现大规模和全行业的转型。

秘书处的评论

17. 关于项目提交时间表，世界银行解释说，他们将其机构和国家办事处的对口人员合作，制定循环基金项目。提交项目提案的预计时间约为核准项目编制供资之日起 12 个月，具体实施时间表会因国家而异，并将在详细的项目提案中说明。

18. 关于在世行组织内其他相关部门的支持下执行项目的情况，世界银行解释说，其所有业务都是由世界银行业务政策和国家服务局负责制定业务政策和程序，用于指导有效实施针对具体方案的解决办法。法律局、财务和会计局以及资金业务局提供法律、财务管理、问责和金融工具方面的支持。各国家办事处负责在国家层面支持项目的执行，并保持与政府和发展伙伴之间的关系。各行业局负责行业合作战略、伙伴关系发展、技术支持和知识管理。在能效循环基金合作方面，世界银行的全球环境局一直通过能源行业管理援助方案与国家一级的能源部门密切合作，并支持多个项目团队与国家臭氧机构合作，以确定和制定项目编制供资申请。

19. 关于格林纳达的项目编制费用，秘书处注意到，已经确定了受援者和技术细节，并要求提供有关在项目编制期间需要进行更多调查的信息。世界银行澄清说，需要进行调查和更多的能源审计，以盘点现有设备状况、改造需求、建筑隔温要求以及因冷水机组类型而异的运行和维护要求。这些调查和能源审计是为了评估实际的制冷需求，而这种评估又是设计循环基金所必需的。此外，还将对现有专门用于能效投资的循环基金进行分析，并对在格林纳达设立能效循环基金方面的相关法律和监管缺口进行分析。

20. 世界银行告知秘书处，该机构正在与印度政府进行后续接触，探讨编制一个循环基金项目，将其提交今后某次执行委员会会议的可能性。

秘书处的建议

21. 执行委员会不妨考虑核准编制这些项目，为格林纳达、墨西哥、泰国和土耳其的最后用户建立能效循环基金，每个基金 100,000 美元，外加为世界银行提供 7,000 美元的机构支助费用。

Annex I**INSTITUTIONAL STRENGTHENING PROJECT PROPOSALS¹****Thailand: Renewal of institutional strengthening**

Summary of the project and country profile			
Implementing agency:			World Bank
Amounts previously approved for institutional strengthening (US \$):			
Phase I:	Mar-93		452,000
Phase II:	Jul-98 & Dec-01		301,334
Phase III:	Jul-03		372,667
Phase IV:	Jul-05		372,668
Phase V:	Jul-07		372,668
Phase VI:	Jul-09		279,501
Phase VII:	Dec-12		370,935
Phase VIII:	Dec-16		474,796
Phase IX:	Dec-18		474,796
Phase X:	Dec-21		474,796
Total:			3,946,161
Amount requested for renewal (phase XI) (US \$):			918,532
Amount recommended for approval for phase XI (US \$):			918,532
Agency support costs (US \$):			64,297
Total cost of institutional strengthening phase XI to the Multilateral Fund (US \$):			982,829
Date of approval of country programme:			1993
Date of approval of HCFC phase-out management plan:			2012
Date of approval of Kigali HFC implementation plan:			n/a
Baseline consumption of controlled substances (ODP tonnes/CO ₂ -eq tonnes):			
(a) Annex B, Group III (methyl chloroform) (average 1998-2000)			54.6
(b) Annex C, Group I (HCFCs) (average 2009-2010)			927.6
(c) Annex E, (methyl bromide) (average 1995-1998)			183.0
(d) Annex F (HFCs) (average 2020-2022 plus 65% of HCFC baseline)			59,270,951
Latest reported ODS consumption (2023) (ODP tonnes) as per Article 7:			
(a) Annex B, Group III (methyl chloroform)			0
(b) Annex C, Group I (HCFCs)			292.73
(c) Annex E, (methyl bromide)			0
Total:			292.73
(d) Annex F (HFCs) (CO ₂ -eq tonnes) as per Article 7			Not available
Year of reported country programme implementation data:			2024
Amount approved for projects (as at December 2024) (US \$):			79,935,112
Amount disbursed (as at December 2023) (US \$):			76,245,419
ODS to be phased out (as at December 2024) (ODP tonnes):			8,514.4
ODS phased out (as at December 2023) (ODP tonnes):			8,333.2

1. Summary of activities and funds approved by the Executive Committee:

Summary of activities	Funds approved (US \$)
(a) Investment projects:	66,018,556
(b) Institutional strengthening:	3,946,161
(c) Project preparation, technical assistance, training and other non-investment projects:	9,970,395
Total:	79,935,112

(d) HFC activities funded from additional voluntary contributions	463,514
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Progress report

2. During phase X of the institutional strengthening (IS) project, Thailand has been able to meet and sustain its Montreal Protocol obligations on HCFC phase-out and sustain the complete phase-out of controlled substances under Annex A and Annex B Group I and II since January 2010. It also implemented policies to meet its obligations for the first year of Kigali Amendment implementation. Public awareness activities were conducted including circulation of public awareness materials and the hosting of annual celebrations of World Ozone Day to ensure that ozone layer protection and related climate mitigation remains a priority among government agencies, industries and relevant stakeholders. The national ozone unit (NOU) worked closely with the World Bank and key stakeholders to advance project implementation of stage II of the HCFC phase-out management plan while contributing to a project implementation manual. The NOU oversaw the preparation of proposals for new stages and projects; and participated, whenever possible, in Montreal Protocol-related meetings. Finally, the NOU, on behalf of the Thai government, submitted on time, Article 7 data reports to the Ozone Secretariat and progress reports for country program implementation to the Multilateral Fund Secretariat.

Plan of action

3. Phase XI of the IS project aims to sustain the ODS phase-out achieved thus far and to maintain the momentum of HCFC phase-out and HFC phase-down. Under this phase, the NOU will: (i) continue the effective management of ODS phase-out activities to ensure sustainability; (ii) continue strengthening the capacity of the NOU and government agencies; (iii) support Thailand's HCFC phase-out implementation including through development of relevant policies and measures to ensure compliance with the consumption reduction targets; (iv) conduct public awareness activities to promote HCFC phase-out and raise awareness on HFCs; (v) support and oversee the preparation of new projects; (vi) build consensus on national HFC phase-down priorities amongst relevant industries; and (vii) support national and relevant agencies in terms of energy efficiency savings through manufacturing of greener products in air-conditioning and related industries. The IS project will support the Department of Industrial Works (DIW) to deploy new ways to coordinate and implement necessary actions and measures to ensure effective control of HCFC and HFC consumption in accordance with Montreal Protocol obligations. This will include activities related to the control of HCFC and HFC consumption in the relevant industries, allocation of import quotas to HCFC and HFC importers, monitoring import and export in close collaboration with the Customs Department, supporting technical assistance and building capacity of government agencies such as the Department of Skill Development and Office of Vocational Education Commission, supporting the Ministry of Energy in building awareness and pushing forward energy efficiency savings, as per the Kigali Amendment, in relevant national industries, and to conduct virtual workshops and public awareness activities through social media and other online channels to sustain public support for ozone protection efforts. Additionally, actions to reflect how gender mainstreaming is undertaken in Thailand's Montreal Protocol programme will continue, including recording and monitoring the gender balance in public awareness activities, encouraging a gender balance in industry and servicing sector outreach activities and training. A mechanism to systemize this data gathering is under consideration, as well as other qualitative information such as motivation of women to work in these sectors and challenges they may face. The DIW will also oversee the development of training material in the HPMP to ensure that it is

gender responsive. The NOU will continue to promote gender equality in its hiring procedures and the gender aspect will be mainstreamed into the preparation of future activities.

Sustainability and risk assessment

4. Sustainability risk to the phase-out achievements reached by Thailand to date is rated as low based on a long track record of compliance and of in-kind support by the Government of Thailand to the NOU and Montreal Protocol implementation. The slower disbursement at times of the NOU budget is more of an indication of project processing aspects (as the IS funds flow to Thailand through a project grant agreement with the World Bank) rather than of a lack of Montreal Protocol implementation activities, stakeholder engagement and public awareness. The DIW and its NOU have cultivated a robust relationship with key industry associations and as such, is very effective in soliciting industry responses, inputs and cooperation on import and other policy; and is preparing for the combined period of HFC phase-down and total HCFC phase-out, when the risks to sustainability may be somewhat higher.

附件二

执行委员会就提交第九十六次会议的延长体制强化项目申请提出的意见草案

泰国

1. 执行委员会审查了随泰国的延长体制强化项目申请提交的报告，并赞赏地注意到泰国进行努力，为《基加利修正案》进行准备，于2024年4月批准了该修正案，并出台了监管措施以控制进口和禁止新建或扩建现有的使用氢氟碳化物的生产设施。委员会还注意到，泰国正在继续努力履行其氟氯烃逐步淘汰管理计划第二阶段规定的加速淘汰氟氯烃的义务，并承诺切实开展与体制强化相关的活动，包括分析和监测受控物质的进口数据、协调剩余的用户行业中的氟氯烃消费削减行动，以及通过《蒙特利尔议定书》提高公众对臭氧和气候保护的认识。因此，委员会相信，在未来三年内，泰国政府将圆满实现把氟氯烃消费量减少 67.5% 的目标，保持这一削减幅度和保持氢氟碳化物消费量冻结水平。

2025
WORK PROGRAM



WORLD BANK GROUP

WORLD BANK IMPLEMENTED
MONTREAL PROTOCOL OPERATIONS

Presented to the
96th Meeting of the Executive Committee
of the Multilateral Fund

31 March 2025

WORK PROGRAM FOR WORLD-BANK IMPLEMENTED MONTREAL PROTOCOL OPERATIONS

1. This proposed work program for Bank-Implemented Montreal Protocol Operations is prepared on the basis of the 2025-2027 World Bank Business Plan which was approved by the Executive Committee at its 95th meeting.
2. The 2025-2027 World Bank Business Plan consists of investment and non-investment activities to assist Article 5 partner countries to meet and sustain their HCFC reduction targets: the 2020 35% reduction in both production and consumption sectors. The Business Plan includes, in addition to deliverables associated with previously approved and new investment activities, requests to extend support for implementation of existing institutional strengthening projects in 2 countries.
3. The 2025-2027 Business Plan also includes investment and non-investment activities for the World Bank client countries that either have ratified or in the process of ratifying the Kigali Amendment to phasedown HFCs. These activities will ensure their compliance with the 2024 freeze target and the 2029 10% reduction in the consumption sectors.

2025 Work Program – ExCom 96

4. This document represents the 2025 Work Program as submitted for consideration to the 96th Meeting of the Executive Committee, includes three (3) funding requests:
 - (i) Four (4) for preparation of energy-efficiency end-user project using a revolving fund mechanism
 - (ii) One (1) for preparation of project to enhance energy efficiency in domestic refrigerator for Indonesia
 - (iii) One (1) Renewal of Institutional Strengthening Project (Phase XI) in Thailand
5. Brief description of the work program activity requests are highlighted below.

**Table 1: Funding Requests Submitted for Consideration
by the 93rd Meeting of the Executive Committee**

Country	Request (US\$)	Support Costs (US\$)	Duration (months)	Description	Supporting document
TBD by ExCom	400,000	28,000	12	Preparation of energy-efficiency end-user projects using a revolving fund mechanism in four countries	Submitted separately
Indonesia	40,000	2,800	12	Preparation for enhancing energy efficiency in manufacturing of domestic refrigerator	Annex 1
Thailand	918,532	64,297	36	Renewal of Institutional Strengthening Project (Phase XI)	Submitted separately
Total	1,358,532	102,097			

Annex 1: Request for project preparation of energy efficiency project for Indonesia

Title: Project preparation for enhancing energy efficiency in manufacturing of domestic refrigeration equipment in Indonesia.

Objective: Improve energy efficiency of domestic refrigeration equipment by 10 to 20% in conjunction with the projects to convert from HFC-134a to R-290 at domestic refrigerator manufacturers as proposed in the Stage 1 KIP for Indonesia.

Context: Indonesia's domestic refrigerator manufacturing comprises domestic refrigerator, chest freezer, showcase, and water dispenser. These units are both manufactured in and imported into Indonesia. Indonesia has established mandatory minimum energy performance standard¹ (MEPS) system, for domestic refrigerator², showcase³, and water dispenser⁴ under the decrees issued by the Ministry of Energy and Mineral Resources (MEMR). Both domestic producers and importers are required to apply for MEPS and put energy saving label on energy utilizing household products which will be traded in Indonesia's market. Currently, majority of the domestic refrigeration equipment manufactured in Indonesia are rated at either 1- or 2-star for the domestic market.

The proposed project aims to improve energy efficiency of domestic refrigerator, showcase, and water dispenser that are produced by the local manufacturers and MNCs with A5-ownership that are included in the Stage I Kigali Implementation Plan (KIP) submitted for consideration by the Executive Committee at the upcoming 96th meeting. These companies are listed in the table below.

Enterprise	Year established	A5 ownership (%)
PT. Fujisei Plastik Seitek	1997	100
PT. Haier Electrical Appliances	2012	100
PT Maspion Elektronik	1997	100
PT Hartono Istana Teknologi	1977	100
PT Sanken Argadwija	1994	100
PT Sharp Electronics Indonesia	1969	7.6

Concept for Improving EE in Domestic Refrigeration: The project intends to provide investment support to the Indonesian- and Article 5-owned manufacturers to increase their production share of energy efficient domestic refrigerator, showcase, and water dispenser.

The abovementioned companies will be supported to first select the pathway towards improving the energy performance in their products from current 1- to 2-star rating. The pathway chosen would dictate the type of technology transfer and capacity building needed. The technology support would allow the enterprises to design systems to effectively use and optimize inverter-based compressors (where possible) and/or modify the design and production of the cabinet with better foam insulation performance. This would reduce operating cost to consumers, which would make the equipment more attractive.

Project preparation support: Preparation will determine what is required to help the companies in the sector design and produce more efficient equipment. The actual target would be confirmed

¹ Known as Standar Kinerja Energi Minimum (SKEM) in Indonesian.

² MEMR Decree No. 113.K/EK.07/DJE/2021 and later amended by Decree No. 8.K/EK.07/DJE/2024

³ MEMR Decree No. 126.K/EK.06/DJE/2023

⁴ MEMR Decree No. 87.K/EK.01/MEM.E/2025

in project implementation subsequent to 1) testing enterprise products and 2) assessing the average energy performance of domestic refrigeration equipment.

Preparation Budget for EE Improvement in Indonesia Domestic Refrigeration Sector

Activity	Planned Budget (US\$)
Capacity needs assessment of enterprises	7,500
Consultations with technology providers/suppliers in the region (incl. travel)	7,500
Collection and analysis of model information per Dec. 94/60 at company level	20,000
Design, development and vetting of the proposal	5,000
Total	40,000