



Project Implementation Report

(1 July 2022 – 30 June 2023)

Project Title:	<i>PCB Management and Disposal in the Energy Sector of Lao PDR</i>
GEF ID:	4782
UNIDO ID:	140157
GEF Replenishment Cycle:	<i>GEF-5</i>
Country(ies):	<i>Lao PDR</i>
Region:	<i>EAP - East Asia and Pacific</i>
GEF Focal Area:	<i>Persistent Organic Pollutants (POPs)</i>
Integrated Approach Pilot (IAP) Programs¹:	<i>N/A</i>
Stand-alone / Child Project:	<i>N/A</i>
Implementing Department/Division:	<i>ENV / IPM</i>
Co-Implementing Agency:	<i>N/A</i>
Executing Agency(ies):	<i>Ministry of Natural Resources and Environment</i>
Project Type:	<i>Full-Sized Project (FSP)</i>
Project Duration:	<i>48 months</i>
Extension(s):	<i>4</i>
GEF Project Financing:	<i>USD 1,400,000</i>
Agency Fee:	<i>USD 140,000</i>
Co-financing Amount:	<i>5,600,000 USD</i>
Date of CEO Endorsement/Approval:	<i>4/15/2014</i>
UNIDO Approval Date:	<i>8/15/2013</i>
Actual Implementation Start:	<i>5/30/2014</i> <i>/</i>
Cumulative disbursement as of 30 June 2023:	<i>1,287,454.68</i>

¹ Only for GEF-6 projects, if applicable

Mid-term Review (MTR) Date:	March – April 2017
Original Project Completion Date:	5/31/2018
Project Completion Date as reported in FY22:	12/31/2022
Current SAP Completion Date:	3/31/2024
Expected Project Completion Date:	3/31/2024
Expected Terminal Evaluation (TE) Date:	5/15/2024
Expected Financial Closure Date:	3/31/2025
UNIDO Project Manager²:	Carmela Centeno

I. Brief description of project and status overview

Project Objective
The objective of the project is to facilitate the implementation of the Stockholm Convention (SC) on POPs in respect of sound management of PCBs and PCB-containing equipment and wastes including the development of specific legislations, implementation of environmentally sound management practices, inventory, testing, labelling of at least 1000 electrical equipment and disposal/decontamination of 250 tons of PCB-containing equipment and wastes.

Baseline
Following the ratification of the Convention, the national Government of Lao PDR showed its willingness to meet its obligations under the SC on POPs and has already undertaken several measures to initiate its implementation. As a first step, they requested MONRE to start preparing the recommendations for incorporating the requirements of the SC on POPs in the local environmental legislation. However, knowledge capacity on PCB management, phasing out, and disposal was insufficient to ensure policy and legislation development. Because of this, the PCB activities were given the highest priority and the Government applied through UNIDO to GEF for financing a relevant project for PCB management. It is important to mention that the country, despite the difficult economic situation, has already allocated the resources required for the implementation of the SC (which can be seen in their co-financing commitments to the project). The project was expected to facilitate the implementation of SC with respect to PCBs-containing equipment and wastes including the development of specific legislations, the implementation of environmentally sound management practices, inventory, testing, and labeling of at least 1,000 suspected electrical equipment, safe storage of PCB-containing equipment and wastes and their safe disposal of at least 250 tons of contaminated equipment.

Please refer to the explanatory note at the end of the document and select corresponding ratings for the current reporting period, i.e. FY23. Please also provide a short justification for the selected ratings for FY23.

² Person responsible for report content

In view of the GEF Secretariat's intent to start following the ability of projects to adopt the concept of adaptive management³, Agencies are expected to closely monitor changes that occur from year to year and demonstrate that they are not simply implementing plans but modifying them in response to developments and circumstances or understanding. In order to facilitate this assessment, please introduce the ratings as reported in the previous reporting cycle, i.e. FY22, in the last column.

Overall Ratings ⁴	FY23	FY22
Global Environmental Objectives (GEOs) / Development Objectives (DOs) Rating	<i>Moderately Satisfactory (MS)</i>	<i>Moderately Satisfactory (MS)</i>
<i>For FY 22 reporting period, the project still experiences severe delay on the import of the PCB dechlorination equipment to Laos that it necessitated another extension. PCB dechlorination and transformer retrofilling is currently being undertaken.</i>		
Implementation Progress (IP) Rating	<i>Moderately Satisfactory (MS)</i>	<i>Moderately Satisfactory (MS)</i>
<i>PCB disposal activities have been initiated. National stakeholders are informed and prepared. Issues with the import of the facility has been sorted out. Several coordination meetings held with the contractor to ensure efficient implementation of PCB disposal operations</i>		
Overall Risk Rating	<i>Low Risk (L)</i>	<i>Moderate Risk (M)</i>
<i>PCB dechlorination activities are currently ongoing, albeit slowly as most of the transformers to be cleaned are online.</i>		

II. Targeted results and progress to-date

Please describe the progress made in achieving the outputs against key performance indicator targets in the project's **M&E Plan/Log-Frame at the time of CEO Endorsement/Approval**. Please expand the table as needed.

Project Strategy	KPIs/Indicators	Baseline	Target level	Progress in FY23
Component 1 – Policy, legal framework and institutional capacity				
Outcome 1: strengthening of institutional, legislation, policy framework, and enforcement of management of PCBs.				
Output 1.1: Specific policy/legal framework drafted, adjusted and enacted in accordance	A new set of regulatory instruments and guidance	No legislation on PCBs management and disposal is in	Official guidance documents concerning PCB identification,	Two significant issuances were executed under this component. <ul style="list-style-type: none"> Agreement on the Management and Monitoring of PCB

³ Adaptive management in the context of an intentional approach to decision-making and adjustments in response to new available information, evidence gathered from monitoring, evaluation or research, and experience acquired from implementation, to ensure that the goals of the activity are being reached efficiently

⁴ Please refer to the explanatory note at the end of the document and assure that the indicated ratings correspond to the narrative of the report

with the requirements of the SC.	documents with Stockholm Convention requirements on PCBs	place. Lao PDR however has submitted a NIP which includes PCBs as a priority.	labeling, handling, and disposal are officially approved.	Decontamination and Disposal for Electric Transformers, <ul style="list-style-type: none"> Decree on Controlling the Import-Export of PCB Products In addition, a review and assessment of the existing legal and regulatory framework on PCBs including the progress on PCB management in Lao were also undertaken.
Output 1.2: Strategy for enforcement developed and implemented	A practical strategy for implementing the new regulation is elaborated and agreed upon with stakeholders	An enforcement strategy, made of clear assignment of roles and responsibilities, incentives and penalties, and reporting obligations is missing	Enforcement strategy, made of clear assignment of roles and responsibilities, incentives and penalties was approved.	To ensure that the parties of the Agreement do their part in the management of PCBs, it also defines the roles and responsibilities of the local and central authorities – different Ministries, line Agencies, and various Departments - in the management, decontamination, and disposal of the PCBs. Additionally, the proper procedures, duties, and responsibilities of service providers for the management, transport, and disposal of PCBs were also defined in the agreement as well as the rights and obligations, and sanctions for the PCB owners.
Output 1.3 Technical and human capacities for management of PCBs strengthened.	A PCB Training Center established with the support of MONRE and EDL	Currently, capacity of EDL, private stakeholders and governmental institutions, on properly implementing the provisions of the Stockholm Convention on PCBs is scarce.	Establishment of a Training Centre at the EDL premises. Establishment of curricula at Universities.	The staff of EDL were trained and a training center for the project was put up and established in their headquarters. The Faculty of Chemistry at the National University of Laos, has approved the curriculum on POPs management specifically on PCBs to be applied to a Bachelor's Degree. The staff in the laboratory have also undergone training on sampling - "Precautionary measures for sample taking" and they were also utilized during the conduct of the activities of the project.

Component 2 – Technology transfer for sound management of PCBs in energy sector.

Outcome 2: Application of BATs in all stages of PCB waste management and disposal.

Output 2.1: Detailed inventory and labelling of at least 1000 transformers undertaken.	Availability of a PCB inventory including sample and monitoring data concerning at least 1000 transformers	Analytical capacity for PCBs is missing in the country. Preliminary information concerning transformers and	One laboratory is upgraded with equipment for carrying out PCB analysis using an international standard method and accredited.	The Natural Resources and Environmental Institute (NERI), was equipped with an L2000DX to carry out PCB analysis. In the conduct of the analysis, the standard operating procedures
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		<p>electrical equipment available on NIP suggested that up to 29% of the transformers tested may have a PCB content higher than 50 ppm. However, this inventory was carried out on older units and not valid to estimate total number of transformers containing PCBs in Lao, therefore an exhaustive inventory of PCB equipment is missing.</p>	<p>Standard Operating Procedures (SOP) for identifying, labeling, tracking, screening and laboratory analysis of PCBs is applied. At least 10 operators trained on the implementation of such SOP, in the course of desk and field lessons. Inventory teams established throughout the country and an inventory coordination unit established. Inventory including sampling and analysis of 1000 transformers carried out.</p>	<p>(SOP) that came with the equipment were utilized.</p> <p>An inventory coordination unit and teams were established. The members of the teams were composed of personnel from EDL, the NERI laboratory, and the Pollution Control Department (PCD) of MONRE. Several teams were formed and did the inventory and sampling exercises.</p> <p>All teams were trained for the sampling activities and followed the SOP. The PCB inventory forms from the SC were translated into Laotian and adapted to record the information necessary for the inventory.</p> <p>More than 800 transformers were accounted for which 139 units were found to be contaminated with PCBs having >50ppm. (These transformers include the 4 big transformers from the substations located in the four (4) provinces which weigh more than the total weight of the 135 small transformers.)</p> <p>The total weight of the units found to be contaminated is 406,487kg (448.075 tons) of PCB-containing equipment and 110,371 liters of oil with higher than 50 ppm, and 1,254,731 liters with less than 50 ppm.</p>
Output 2.2: PCB phase-out plan developed and implemented	Availability of a PCB Management plan drafted and agreed by relevant stakeholders	<p>In Lao PDR, because of the lacking of relevant legislation, data on PCBs contaminated equipment are not available to establish a sound PCB management plan. A database platform for the management of PCBs, which will be the proper tool for PCB management, is also missing.</p>	<p>Database of PCBs contaminated equipment containing serial numbers, positioning and all the other relevant data for identifying and managing the PCB equipment created. A PCB management plan for the project, based on inventory outcome and priority</p>	<p>The database which was established under the project contains all the necessary information about the contaminated units. (Data included: location, unit serial number, year of acquisition, the purpose of the unit, sampling information, weight and oil volume, and PCB concentration.) The database is under the care of and is managed by the Pollution Control and Monitoring Department of MONRE (www.monre.gov.la).</p> <p>The management plan for the PCBs in Laos was prepared by SETCAR in coordination with the PMU. Plan inclusions: 1) discussion on the basic activities including the preparation of the storage facility, site inspections for retro-filling, the process of retro-</p>

			considerations, which can be used as a model for the country PCB management plan, approved and agreed upon among relevant stakeholders.	filling and treatment of contaminated oil, and the eventual destruction of the generated waste with PCB, and 2) the plan for the exportation of the mobile unit used and cleaning up of the workspace used in Laos.
Output 2.3 Technical options selected for the safe disposal of 250 tonnes of PCBs containing equipment and wastes.	A technical and economic analysis of available PCB treatment technologies based on the specific situation of Lao PDR. identifying the best option for PCB treatment, carried out. Technical specification for the plant to be procured clearly identified,	As it is not required by the current legislation, proper technologies for the ESM disposal / treatment of PCBs containing equipment and waste were never assessed.	A set of technologies for the disposal / treatment of low contaminated PCB equipment, metal carcasses and porous material is identified and their relevant parameters (both concerning disposal capacity requirements, reliability, and environmental performance) are identified and quantified	The technology chosen for the safe disposal of PCB and treatment of PCB-contaminated equipment was supported by the PMU as mentioned in the PSC Meeting in July 2020. The PCB Dechlorination System is a non-combustion technology that does not produce Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDDs/PCDFs) and other POPs thus complying with BAT and BEP requirements defined in the Stockholm Convention. The technology which is set up in the mobile unit of SETCAR has five modules namely, a) the Chemical de-chlorination module; b) The vacuum module; c) The heating module; d) the Filtration module; e) the Module for Degassing and dehydration This treatment provides an adequate dielectrical resistance before refilling the transformer with treated oil.
Output 2.4 Operation of a decontamination BAT sustained after the termination of the project	A system for the packaging, temporary storage and transportation of PCBs equipment and PCBs waste, including both procedures and infrastructures ensuring capacity beyond project objectives, is established. Suitable disposal technology for the ESM disposal of PCBs equipment/waste tested and permitted, for an overall disposal capacity suitable to satisfy or	There is no disposal capacity in the country to satisfy the need of PCBs disposal in compliance with the SC BAT/BEP criteria and deadline. There is currently no enough treatment capacity for either decontaminating or disposing the 250 tons of PCB equipment committed for under the project	Guidance procedures for the packaging, temporary storage, transportation and disposal of PCBs in Lao PDR put in place and verified. At least one temporary storage facility established or upgraded for the storage, packaging and transportation of PCBs One suitable disposal or treatment facility, compliant with the SC BAT/BEP criteria, for a	The Guideline on Disposal and Management of PCBs details the step-by-step procedures and safety measures on how to handle and manage the disposal of PCBs which guarantees that PCB operations shall be sustained. The guidelines identified the characteristics of PCBs, steps in making an inventory, taking samples and its procedures, and the identification of available and possible treatments and destruction of PCBs available worldwide. In addition, temporary storage facility was also established on the premises of EDL workstation in Phontong, the project demonstration site for the treatment of the PCB-contaminated equipment. All activities undertaken were based on the work plan identifying preparatory activities, inspections of the electrical equipment, meetings

	exceed project need (250 tons of PCBs). Amount of PCBs equipment and waste successfully disposed.		capacity suitable to fulfill or exceed project needs, established, tested and permitted. At least 250 tons of PCBs equipment or waste treated or disposed by means of such facility	and coordination, and market research for local suppliers and service providers. . The packaging, labeling, and exporting of waste generated were also included in the Plan as well as the sending back of SETCAR's mobile unit to Romania. To date, there were 22 transformers equivalent to 6440 liters of PCB contaminated equipment dechlorinated/ retrofilled and degassing/dehydration of dechlorinated electrical insulating oil: 1000 liters, humidity 5.2 ppm
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Component 3 – Public awareness raising, education, dissemination of project results.

Outcome 1: Outcome 3: Increased public awareness on issues concerning PCBs impact on health and environment, and reduced number of accidents of unintentionally contacts of people with PCB-contaminated materials.

Output 3.1: Assessment of health and environmental impact issues, including management of public and occupational safety issues.	Existing studies and researches conducted in Lao PDR on the health aspects related to PCBs reviewed with the purpose to identify quality criteria at workplace and for the environment.	A case study concerning the health risk assessment of the Sok Pa Loung warehouse carried out with WB support in the framework of the regional project "Regional Capacity Building Programme for Health Risk Management of POPs in South East Asia". The study contains risk management measures for PCB workers and the environment.	Risk Management Measures including the proper use of PPE for operators carrying out sampling, maintenance, dismantling of transformers drafted and disseminated. Quality criteria for PCB contaminated soil established.	The report on Health and Environmental Impact of PCBs in Lao PDR was produced in 2017 with the ffg key findings: 1) the country still has very limited awareness of PCBs and their impacts on health and the environment. 2) high contamination of PCBs in the environment due to lack of awareness and proper knowledge about PCBs, 3) the need for further studies to know the impact of these PCBs and how to minimize their negative effects, 4) the need for the immediate issuance of regulations or any policies to address the management and eventual elimination of PCBs During the inventory and sampling activities, risk management measures were already put in place. PPEs were used in carrying out sampling and dismantling of contaminated transformers/equipment, These measures were also included in the Guidelines on Disposal and Management of PCBs for further reference and guidance for future activities of the operators and personnel.
Output 3.2: Stakeholder engagement including	Number of stakeholders targeted and	Limited Identification of target	At least 1 university, one NGO, 2 public	Stakeholders' involvement and engagement were strong during project implementation MONRE,

NGOs and civil society established	participating in raising awareness initiatives.	stakeholders for raising awareness on PCBs issues is carried out.	institutions, one waste management companies identified and participating in raising awareness initiatives.	<p>Electricity Du Lao (EDL), were the main stakeholder had significant roles in the implementation of project activities. The awareness-raising about PCBs started also within EDL when their staff and personnel were made aware of the impacts of PCBs including the proper handling and safety protocols during the early trainings organized under the project.</p> <p>Also, a number of government ministries got involved in the implementation of the project mainly as members of the PSC which include the Ministry of Environment and Natural Resources, Ministry of Health, Ministry of Industry and Commerce, Ministry of Science and Technology, Vientiane Urban Development and Administration Authority, Ministry of Defense, State Enterprise Power Laos, Ministry of Public Works and Transport, and the University of Lao.</p> <p>Other stakeholders were involved either in the training or awareness raising activities i.e. PCB owners, schools and universities, NGOs, households etc.</p>
Output 3.3 Training and educational material developed.	Awareness raising material.	No awareness raising material on PCBs is available in the country, either for the general public or for specific stakeholders	Awareness raising material specifically developed for: Universities Operators of PCBs owners (i.e. utilities, large factories), public institutions and NGOs.	<p>A number of awareness-raising materials were developed. Brochures and posters were disseminated and distributed to various districts with the assistance of the different government institutions. Proper labels were also put into transformers during the inventory for proper identification as well as to serve as cautions not only to concerned personnel but also to other individuals or any stakeholders.</p>
Output 3.4 Awareness raising programmes implemented.	Number of awareness raising events held. Outcome of questionnaire surveys.	Limited awareness raising initiatives carried out in the recent years; most of them were on the side of assessing health effect and human exposure of PCBs.	At least 2 awareness raising workshops and 2 training courses carried out.	<p>Two awareness-raising workshops were undertaken and two trainings conducted with majority of participants coming from EDL. Also, as part of the project's awareness-raising activities, presence in the online or digital media was made possible by utilizing the website of the government partner, MONRE. One activity that was done online is the online-learning course on Health Risk of PCBs and protection from PCBs exposure. This online learning gave a quick peek at the level of</p>

				awareness of the people of Lao in relation to PCBs.
Component 4. Impact monitoring and evaluation.				
Outcome 4: Assessment of the impact of project activities.				
Output 4.1 Impact indicator designed and applied.	Use of indicators for the evaluation of the results of the project implementation			Project indicators were used during MTE
Output 4.2 Project implementation and impacts evaluated.				Midterm Review was undertaken in March-April 2017.

III. Project Risk Management

1. Please indicate the overall project-level risks and the related risk management measures: (i) as identified in the CEO Endorsement document, and (ii) progress to-date. Please expand the table as needed.

	(i) Risks at CEO stage	(i) Risk level FY 22	(i) Risk level FY 23	(i) Mitigation measures	(ii) Progress to-date	New defined risk ⁵
Outcome 1.: Strengthening of institutional, legislation, policy framework, and enforcement for management of POPs including PCBs						
1	There are no unexpected risks in Component 1 of the project			All potential risks have been discussed with local stakeholders at the initial stage of the project formulation and considered in the CEO endorsement document		<input type="checkbox"/>
Outcome 2: Application of BATs and BEPs in all stages of PCBs waste management and disposal						
2	Lack of support from transformer owners to make their equipment available to the project for sampling and testing	L	L	With a very small industrial base, most of the transformers in the country are owned and operated by EDL. EDL is a partner and fully committed to the project. The timely acceptance of the legislation update will make undertake the identification and disposal of PCB contamination	EDL has proven to be a cooperative and responsive partner of the project and has made available all their transformers for testing and processing.	<input type="checkbox"/>
3	Technical staff, working in PCB handling and disposal, as well as the general population residing in the neighborhood where PCBs are being treated may be excessively exposed to PCBs	L	L	The possibility of such risk under normal conditions is very low. Technical staff will be properly trained in all aspects of PCBs, including the use of personal protective equipment. The technology to be selected using BAT/BET criteria amongst proven and commercially available with proven track record, therefore the risks for potential accidental	The general population has been made aware of the possible impacts of PCBs through rigorous awareness raising. Technical staff were trained on the proper handling of PCBs and were provided with PPEs during disposal activities	<input type="checkbox"/>

⁵ New risk added in reporting period. Check only if applicable.

				releases of PCBs during operation of the technology will be minimized. In addition, the operation of such a system and handling of PCBs will be carried out in a secured, control area. However, despite all the above, special instructions for the actions of technical staff in case of emergency situations will be developed. NCPC will be monitoring these risks to the local population and if required, recommend to the Steering Committee and MONRE preventive/protective measures to be done.		
4	Impact of adopted PCB treatment technology on climate change	L	L	The technology to be adopted will be a dechlorination system where the PCBs are chemically destroyed in a controlled ambient, allowing the recovery and use of the transformer oil. The formation of greenhouse gases is avoided	Non-combustion dechlorination technology was selected and adopted provided by SETCAR which is also well known for implementing said technology. All precautionary measures were also undertaken during operations.	<input type="checkbox"/>
5	Accidental exposure to electrical shocks and/or PCB during transformer oil samples being taken during inventory exercise	M	L	Operators taking samples from transformers will be EDL employees with proper training working on or near energized transformers. They will be fully trained in dealing with PCBs to reduce any potential exposures.	Appropriate training and proper PPEs were provided to those who conducted the sampling.	<input type="checkbox"/>
	Resistance of stakeholders to accept results showing transformers in their system are contaminated with PCBs equipment containing PCBs	L	L	EDL is a state-owned company that has already supported other PCB projects, including during the preparation of NIP. EDL is also a fully committed partner to this project.	On a positive note, EDL was very supportive of the project and has shown full cooperation in the proper handling of PCBs.	
Outcome 3: Increased public awareness on issues concerning PCBs impact on health and environment, and reduced number of accidents of unintentional contact of people with PCB-contaminated materials						
	Accidental PCB releases due to PCB dechlorination and/or decontamination equipment breakdown	L	L	Please look for the above risk mitigation measures.	Training and emergency measures on accidental releases were put in place.	
	Natural disasters on stockpiles and POPs containing articles may cause the spreading of PCBs in the environment Lao's climate conditions will affect the performance and efficiency of PCB treatment facilities or activities being carried out as part of the project.	M	M	The Terms of Reference for the equipment will include the requirements to consider the local geographical and climatic conditions for the design of the equipment and for its operation in case of emergency situation. Design of facilities will be made in compliance with the classification of the area in term of seismic risk. The operational plan will take into account emergency response to be adopted in case of natural disasters. Project's activities such as PCB handling and transportation will be carried out	Site preparation was carefully undertaken as well as the handling and transportation of PCBs for processing.	

				according to prevailing climate conditions to reduce the potential for environmental accidental releases		
Outcome 4: Assessment of the impact of project activities						
	Differences of opinions between the stakeholders on the project's objectives and their responsibilities versus the requirements of the SC on POPs.	L	L	Regular PSC meetings will be a forum for tracking and evaluating the project's progress, making necessary changes, and solving possible problems among the stakeholders. PSC members will be asked to be active in reviewing the project's activities and results	The commitment of stakeholders was evident not only during PSC Meetings but also during the implementation of project activities. Decisions were made based on the discussions in PSC Meetings and in agreement of the majority.	
	COVID 19-related risk: Implementation of the service contract on PCB disposal awarded in February 2020 has been severely impacted by the pandemic issue	H	L	Identify activities, which can be undertaken during the pandemic period and implement whatever is possible.	During the height of the Pandemic, project activities were really affected especially the putting up of the Mobile Facility. During that time, meetings and coordination were done virtually in order to ensure continuity, and some preparatory activities were accomplished through the local company partner of the contractor.	

2. If the project received a sub-optimal risk rating (H, S) in the previous reporting period, please state the actions taken since then to mitigate the relevant risks and improve the related risk rating. Please also elaborate on reasons that may have impeded any of the sub-optimal risk ratings from improving in the current reporting cycle; please indicate actions planned for the next reporting cycle to remediate this.

The risk identified was related to the COVID-19 Pandemic and has been addressed accordingly.

3. Please indicate any implication of the **COVID-19** pandemic on the progress of the project.

The restrictions brought about by the pandemic affected the activities specifically in Component 2. The transport and delivery of the mobile unit was delayed. The team/contractor was also not able to come at the specified time due to the lockdowns in Lao PDR. On another matter, these events also brought about higher/additional costs in the logistics and operations. Internal movements of project staff and those of their counterparts were also limited. Project extensions were already approved to finish all remaining activities.

4. Please clarify if the project is facing delays and is expected to request an **extension**.

As mentioned, the project extension was already approved and despite all the delays, PCB disposal and treatment of equipment contaminated with PCBs are ongoing, and hopefully, the target number, could be completed until March 2024.

5. Please provide the **main findings and recommendations of completed MTR**, and elaborate on any actions taken towards the recommendations included in the report.

The mid-term evaluation (MTE) was carried out from March to April 2017. During the conduct of the MTE, the project has already suffered a delay of 1.5 years mainly due to internal changes in UNIDO, EDL as well as MONRE. But nonetheless, the delay had no impact in terms of cost and it was assured that with the results achieved during that time, project outcomes can still be achieved. Other findings included the notable commitment and continued support of major stakeholders and the strong technical support of

UNIDO. In general, one major recommendation of the MTE is to expedite the implementation of the activities by deepening the involvement of other stakeholders, through further presentation and definition of their roles/tasks in project implementation. This recommendation was subsequently addressed after the MTE, but as mentioned, further delays were inevitable due to the COVID-19 pandemic.

IV. Environmental and Social Safeguards (ESS)

1. As part of the requirements for **projects from GEF-6 onwards**, and based on the screening as per the UNIDO Environmental and Social Safeguards Policies and Procedures (ESSPP), which category is the project?

☐ Category A project

☐ Category B project

☐ Category C project

(By selecting Category C, I confirm that the E&S risks of the project have not escalated to Category A or B).

Notes on new risks:

- *If new risks have been identified during implementation due to changes in, i.e. project design or context, these should also be listed in (ii) below.*
- *If these new/additional risks are related to Operational Safeguards # 2, 3, 5, 6, or 8, please consult with UNIDO GEF Coordination to discuss next steps.*
- *Please refer to the [UNIDO Environmental and Social Safeguards Policies and Procedures \(ESSPP\)](#) on how to report on E&S issues.*

Please expand the table as needed.

	E&S risk	Mitigation measures undertaken during the reporting period	Monitoring methods and procedures used in the reporting period
(i) Risks identified in ESMP at time of CEO Endorsement	n/a		
(ii) New risks identified during project implementation (if not applicable, please insert 'NA' in each box)	n/a		

V. Stakeholder Engagement

1. Using the previous reporting period as a basis, please provide information on **progress, challenges and outcomes** regarding engagement of stakeholders in the project (based on the Stakeholder Engagement Plan or equivalent document submitted at CEO Endorsement/Approval).

Undeniably, delays were encountered in project implementation, and these were brought about by several factors like the re-organization in the government partners, restrictions during the COVID-19 pandemic, and delayed delivery of equipment/mobile facility due to some problems encountered during transport. Nevertheless, all of these hurdles were already addressed and finally, the project is now in its final stage in completing the disposal and treatment of PCBs and PCB-contaminated equipment. If not for the active involvement of the different Government Ministries in Lao PDR, the project might have been in a more difficult situation. Through the support and active involvement of these stakeholders,

all challenges were resolved.

Several meetings were held with EDL, the main project stakeholder to ensure the provision of manpower for taking out online PCB contaminated equipment for dechlorination.

2. Please provide any feedback submitted by national counterparts, GEF OFP, co-financiers, and other partners/stakeholders of the project (e.g. private sector, CSOs, NGOs, etc.).

N/A

3. Please provide any **relevant stakeholder consultation** documents.

- *Project Steering Committee minutes*
- *Revised Work Plan*

VI. Gender Mainstreaming

1. Using the previous reporting period as a basis, please report on the **progress** achieved **on implementing gender-responsive measures** and **using gender-sensitive indicators**, as documented at CEO Endorsement/Approval (in the project results framework, gender action plan or equivalent),.

While gender mainstreaming is not a requisite for GEF-5 projects, the project was able to involve women in all of the project activities. PSC members/representatives were also not limited to men but women were also strongly represented and part of the decision-making. Women consultants/experts were also hired during implementation of project activities.

VII. Knowledge Management

1. Using the previous reporting period as a basis, please elaborate on any **knowledge management activities / products**, as documented at CEO Endorsement / Approval.

Knowledge Management, although not part of GEF-5 projects, has been made an important tool in the monitoring of project outputs. Project-related reports are kept in the PMU and shared with stakeholders as necessary.

2. Please list any **relevant knowledge management mechanisms / tools** that the project has generated.

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VIII. Implementation progress

1. Using the previous reporting period as a basis, please provide information on **progress, challenges and outcomes achieved/observed with regard to project implementation.**

Most of the previous PIRs would show that project activities were implemented as intended. All activities pertaining to Components 1, 3, and 4 were already completed and it is only in Component 2 that the remaining activities are being carried out. This activity pertains to the disposal and treatment of PCBs and PCB-contaminated equipment.

The mobile facility was finally put up and started processing in 2nd QTR of 2023 and is expected to be completed by December 2023.

Other remaining activities pertain to Component 5, that is the Terminal Evaluation as well as the finalization of the Final Report/Project Completion Report and the Final Workshop/PSC Meeting.

2. Please briefly elaborate on any **minor amendments⁶ to the approved project that may have been introduced during the implementation period or indicate as not applicable (NA).**

Please tick each category for which a change has occurred and provide a description of the change in the related textbox. You may attach supporting documentation, as appropriate.

<input type="checkbox"/>	Results Framework	
<input type="checkbox"/>	Components and Cost	
<input type="checkbox"/>	Institutional and Implementation Arrangements	
<input type="checkbox"/>	Financial Management	
<input type="checkbox"/>	Implementation Schedule	An extension until 31 March 2024 was requested and granted. The purpose of the extension is to complete the PCB disposal activities, final evaluation and final workshop is envisaged
<input type="checkbox"/>	Executing Entity	
<input type="checkbox"/>	Executing Entity Category	
<input type="checkbox"/>	Minor Project Objective Change	
<input type="checkbox"/>	Safeguards	
<input type="checkbox"/>	Risk Analysis	
<input type="checkbox"/>	Increase of GEF Project Financing Up to 5%	
<input type="checkbox"/>	Co-Financing	
<input type="checkbox"/>	Location of Project Activities	
<input type="checkbox"/>	Others	

3. Please provide progress related to the **financial implementation of the project.**

⁶ As described in Annex 9 of the *GEF Project and Program Cycle Policy Guidelines*, **minor amendments** are changes to the project design or implementation that do not have significant impact on the project objectives or scope, or an increase of the GEF project financing up to 5%.

As of June 30, 2023, the project has a total disbursement of US\$ 1,289,578.01 which accounts for 92% of the project budget. The expenditure for this reporting period has a total of US\$ 76,539.17 mainly allocated for the disposal of PCBs; all other expenditures were related to the completion of all remaining activities and administrative expenditures.

The project has mobilized USD **5,612,480.00** co-financing which are summarized below:

Name of Co-Financier	Co-financing Amount Committed (as stated in the Project Document in Cash and in Kind)	Co-financing Amount Delivered
Ministry of Natural Resources and Environment (MONRE)	1,000,000	652,880 USD
Electricity Du Lao (EDL)	4,500,000	4,959,600 USD
UNIDO	100,000	100,000
Total	5,600,000	5,612,480 USD

IX. Work Plan and Budget

1. Please provide **an updated project work plan and budget** for the remaining duration of the project, as per last approved project extension. Please expand/modify the table as needed.

Outputs by Project Component	2023		2024	GEF Grant Budget Available (US\$)
	Q3	Q4	Q1	
Component 1 – Policy, legal framework and institutional capacity				
Outcome 1: Strengthening of institutional, legislation, policy framework, and enforcement for management of POPs including PCBs				
Output 1.1: Specific policy/legal framework drafted, adjusted and enacted in accordance with the requirements of the SC.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Output 1.2: Strategy for enforcement developed and implemented	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Output 1.3: Technical and human capacities for management of PCBs strengthened.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Component 2 – Technology transfer for sound management of PCBs in energy sector.				
Outcome 2: Application of BATs in all stages of PCB waste management and disposal.				
Output 2.1 Detailed inventory and labelling of at least 1000 transformers have been done	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Output 2.2: PCB phase-out plan developed and implemented	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Output 2.3 Technical options selected for the safe disposal of 250 tones of PCBs containing equipment and wastes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Output 2.4 Operation of a decontamination BAT sustained after the termination of the project.	x <input type="checkbox"/>	x <input type="checkbox"/>	x <input checked="" type="checkbox"/>	93,958.00 <input checked="" type="checkbox"/>
Component 3- Public awareness raising, education, dissemination of project results.				
Outcome 3: increased public awareness on issues concerning PCBs impact on health and environment, and reduced number of accidents of unintentionally contacts of people with PCB-contaminated materials.				
Output 3.1: Assessment of health and environmental impact issues, including management of public and occupational safety issues.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Output 3.2: Stakeholder engagement including NGOs and civil society established.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Output 3.3 Training and educational material developed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Output 3.4 Awareness raising programmes implemented	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Impact monitoring and evaluation.				
Assessment of the impact of project activities.				
Output 4.1 Project implementation and impacts evaluated.	x <input type="checkbox"/>	x <input type="checkbox"/>	x <input type="checkbox"/>	35,000 <input type="checkbox"/>

X. Synergies

1. Synergies achieved:

N/A

3. Stories to be shared (Optional)

N/A

XI. GEO LOCATION INFORMATION

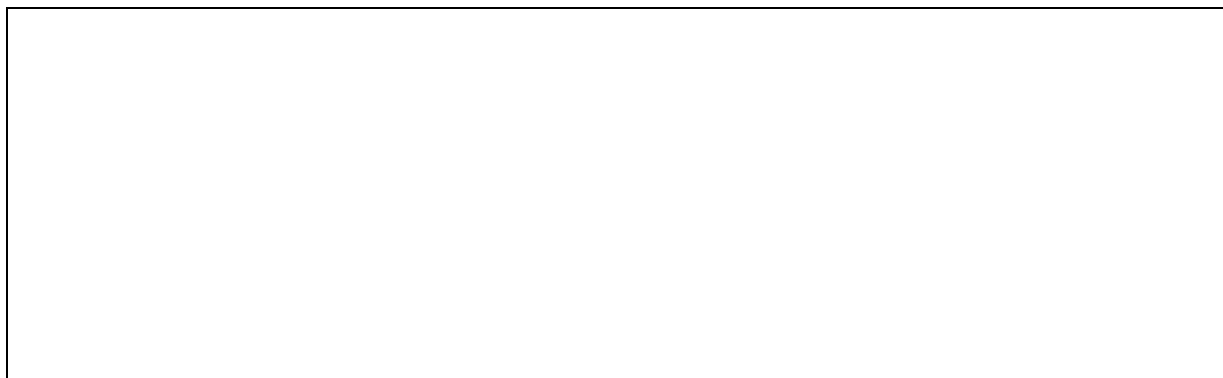
The Location Name, Latitude and Longitude are required fields insofar as an Agency chooses to enter a project location under the set format. The Geo Name ID is required in instances where the location is not exact, such as in the case of a city, as opposed to the exact site of a physical infrastructure. The Location & Activity Description fields are optional. Project longitude and latitude must follow the Decimal Degrees WGS84 format and Agencies are encouraged to use at least four decimal points for greater accuracy. Users may add as many locations as appropriate.

Web mapping applications such as [OpenStreetMap](#) or [GeoNames](#) use this format. Consider using a conversion tool as needed, such as: <https://coordinates-converter.com>

Please see the Geocoding User Guide by clicking [here](#)

Location Name	Latitude	Longitude	Geo Name ID	Location and Activity Description
<i>Vientiane prefecture, Lao PDR</i>	N 18° 5' 0"	E 102° 40' 0"	1904618	PCB dechlorination activities

Please provide any further geo-referenced information and map where the project interventions is taking place as appropriate.



EXPLANATORY NOTE

1. **Timing & duration:** Each report covers a twelve-month period, i.e. 1 July 2022 – 30 June 2023.
2. **Responsibility:** The responsibility for preparing the report lies with the project manager in consultation with the Division Chief and Director.
3. **Evaluation:** For the report to be used effectively as a tool for annual self-evaluation, project counterparts need to be fully involved. The (main) counterpart can provide any additional information considered essential, including a simple rating of project progress.
4. **Results-based management:** The annual project/programme progress reports are required by the RBM programme component focal points to obtain information on outcomes observed.

Global Environmental Objectives (GEOs) / Development Objectives (DOs) ratings	
Highly Satisfactory (HS)	Project is expected to achieve or exceed <u>all</u> its major global environmental objectives, and yield substantial global environmental benefits, without major shortcomings. The project can be presented as "good practice".
Satisfactory (S)	Project is expected to <u>achieve most</u> of its <u>major</u> global environmental objectives, and yields satisfactory global environmental benefits, with only minor shortcomings.
Moderately Satisfactory (MS)	Project is expected to <u>achieve most</u> of its major <u>relevant</u> objectives but with either significant shortcomings or modes overall relevance. Project is expected not to achieve some of its major global environmental objectives or yield some of the expected global environmental benefits.
Moderately Unsatisfactory (MU)	Project is expected to achieve <u>some</u> of its major global environmental objectives with major shortcomings or is expected to <u>achieve only some</u> of its major global environmental objectives.
Unsatisfactory (U)	Project is expected <u>not</u> to achieve <u>most</u> of its major global environmental objectives or to yield any satisfactory global environmental benefits.
Highly Unsatisfactory (HU)	The project has failed to achieve, and is not expected to achieve, <u>any</u> of its major global environmental objectives with no worthwhile benefits.

Implementation Progress (IP)	
Highly Satisfactory (HS)	Implementation of <u>all</u> components is in substantial compliance with the original/formally revised implementation plan for the project. The project can be presented as "good practice".
Satisfactory (S)	Implementation of <u>most</u> components is in substantial compliance with the original/formally revised plan except for only few that are subject to remedial action.
Moderately Satisfactory (MS)	Implementation of <u>some</u> components is in substantial compliance with the original/formally revised plan with some components requiring remedial action.
Moderately Unsatisfactory (MU)	Implementation of <u>some</u> components is <u>not</u> in substantial compliance with the original/formally revised plan with most components requiring remedial action.
Unsatisfactory (U)	Implementation of <u>most</u> components in <u>not</u> in substantial compliance with the original/formally revised plan.
Highly Unsatisfactory (HU)	Implementation of <u>none</u> of the components is in substantial compliance with the original/formally revised plan.

Risk ratings	
Risk ratings will assess the overall risk of factors internal or external to the project which may affect implementation or prospects for achieving project objectives. Risk of projects should be rated on the following scale:	
High Risk (H)	There is a probability of greater than 75% that assumptions may fail to hold or materialize, and/or the project may face high risks.
Substantial Risk (S)	There is a probability of between 51% and 75% that assumptions may fail to hold or materialize, and/or the project may face substantial risks.
Moderate Risk (M)	There is a probability of between 26% and 50% that assumptions may fail to hold or materialize, and/or the project may face only moderate risk.
Low Risk (L)	There is a probability of up to 25% that assumptions may fail to hold or materialize, and/or the project may face only low risks.