

## 1. Project Data

Summary project data			
<b>GEF project ID</b>		3542	
<b>GEF Agency project ID</b>		GF/MON/08/X02	
<b>GEF Replenishment Phase</b>		GEF-4	
<b>Lead GEF Agency (include all for joint projects)</b>		UNIDO	
<b>Project name</b>		Capacity building for environmentally sound PCBs management and disposal	
<b>Country/Countries</b>		Mongolia	
<b>Region</b>		Asia	
<b>Focal area</b>		Persistent Organic Pollutants (POPs)	
<b>Operational Program or Strategic Priorities/Objectives</b>		POPs-SP1: Strengthening Capacities for NIP (National Implementation Plan) Implementation POPs-SP2: Partnering in Investments for NIP Implementation	
<b>Executing agencies involved</b>		Ministry of Environment & Tourism (MOET)	
<b>NGOs/CBOs involvement</b>		None	
<b>Private sector involvement</b>		Ulaanbaatar Electricity Distribution Network Stock Company (co-financer)	
<b>CEO Endorsement (FSP) /Approval date (MSP)</b>		September 2008	
<b>Effectiveness date / project start</b>		July 2009	
<b>Expected date of project completion (at start)</b>		May 2013	
<b>Actual date of project completion</b>		December 31, 2017	
Project Financing			
		<b>At Endorsement (US \$M)</b>	<b>At Completion (US \$M)</b>
<b>Project Preparation Grant</b>	GEF funding	0.13	0.13
	Co-financing	0.17	0
<b>GEF Project Grant</b>		2.65	2.65
<b>Co-financing</b>	IA own	0.1	0
	Government	1.388,848	6.890,860
	Other multi- /bi-laterals	0	0
	Private sector	0	0.038,890
	NGOs/CSOs	4.239,470	0
<b>Total GEF funding</b>		2.78	2.78
<b>Total Co-financing</b>		5.898,318	6.929,750
<b>Total project funding (GEF grant(s) + co-financing)</b>		8.678,318	9.709,750
Terminal evaluation/review information			
<b>TE completion date</b>		2018	

<b>Author of TE</b>	UNIDO, Independent Evaluation Division
<b>TER completion date</b>	December 7, 2018
<b>TER prepared by</b>	Spandana Battula
<b>TER peer review by (if GEF IEO review)</b>	Cody Parker

## 2. Summary of Project Ratings

Criteria	Final PIR	IA Terminal Evaluation	IA Evaluation Office Review	GEF IEO Review
Project Outcomes	S	HS	-	S
Sustainability of Outcomes		L	-	L
M&E Design		MS	-	MS
M&E Implementation		MS	-	MU
Quality of Implementation		HS	-	S
Quality of Execution		S	-	S
Quality of the Terminal Evaluation Report		-	-	S

## 3. Project Objectives

### 3.1 Global Environmental Objectives of the project:

The Global Environmental Objective of the project was to “create capacity for environmentally sound management of PCBs (Polychlorinated biphenyls) for preventing PCBs releases from the electric equipment, avoiding cross-contamination of electric equipment and disposing of 1,000 tons of PCBs wastes” (TE pg V).

### 3.2 Development Objectives of the project:

The overall Development Objective of the project was to: a) strengthen the legal and regulatory framework for environmentally sound management (ESM) and disposal of PCB-containing equipment and oil; b) improve institutional capacity at all levels of PCBs waste management and disposal; c) remove PCBs wastes from targeted contaminated sites and transport them to the disposal unit; d) decontaminate PCB oils in in-service transformers; and e) dispose of wastes in an environmentally sound manner. The project planned to achieve its objectives through the following the two outcomes:

- 1) Capacity building for implementing the PCBs related measures of Stockholm Convention; and
- 2) Environmentally sound management of PCB-containing electrical equipment.

3.3 Were there any **changes** in the Global Environmental Objectives, Development Objectives, or other activities during implementation?

The TE does not mention any changes to the project objectives and activities, except for two no-cost extensions that were granted to allow for completion of project activities due to significant delays.

#### **4. GEF IEO assessment of Outcomes and Sustainability**

Please refer to the GEF Terminal Evaluation Review Guidelines for detail on the criteria for ratings.

Relevance can receive either a Satisfactory or Unsatisfactory rating. For Effectiveness and Cost efficiency, a six point rating scale is used (Highly Satisfactory to Highly Unsatisfactory), or Unable to Assess. Sustainability ratings are assessed on a four-point scale: Likely=no or negligible risk; Moderately Likely=low risk; Moderately Unlikely=substantial risks; Unlikely=high risk. In assessing a Sustainability rating please note if, and to what degree, sustainability of project outcomes is threatened by financial, sociopolitical, institutional/governance, or environmental factors.

Please justify ratings in the space below each box.

<b>4.1 Relevance</b>	Rating: Satisfactory
----------------------	----------------------

The project was consistent with GEF's focal area on Persistent Organic Pollutants (POP), and its Strategic Program 1 to put in place regulatory framework for the management of PCBs and strengthening and improving the sustainability of the PCBs-management capacities of the central government and other stakeholders (TE pg 11). It was also aligned with Strategic Program 2 on phasing out PCB-containing electrical equipment from use, disposing of PCBs in an environmentally sound manner, improving the working conditions of those, who engage in transformer maintenance, and reducing the exposure to PCBs of local communities, whereby the environmental health related risks resulting from PCBs will be reduced (CEO Endorsement pg 6).

The project was also relevant to Mongolia's priorities and obligations to the Stockholm Convention to soundly manage POPs. As per the TE, "this project was designed to assist Mongolia to phase out PCB containing equipment by 2020, which was one of the priorities identified in the NIP. Moreover, the project objectives are in line with national priorities to protect the environment such as Concept for National Safety (1994, Parliamentary resolution No. 56), which promotes activities increasing ecological safety; Sustainable Development Plan for the 21st Century, which was enacted in 1998; and the Millennium Development Goals enacted by the Parliament in April 2005" (TE pg 11).

<b>4.2 Effectiveness</b>	Rating: Satisfactory
--------------------------	----------------------

The TE gave a Highly Satisfactory rating to the effectiveness of the project based on the outputs delivered and long-term effect. The project successfully got approved PCB related standards and legislations and strengthened institutional capacity through workshops and trainings. It also completed the PCB inventory and the successful best available technology (BAT) transfer for the treatment of PCB contaminated electrical equipment. However, the mobile treatment unit had to be replaced due to a fire accident and

lack of insurance, which led to delay in implementation. Also, the project did not prepare monitoring or inspection reports for monitoring of PCB activities. However, given the high achievement of substantive outputs, the TER gives a Satisfactory rating to project effectiveness. Below is a detailed analysis of the project components.

**Component 1: Capacity building for implementing the PCBs related measures of Stockholm Convention:**

Under this component, the project intended to develop standards and build institutional capacity to implement PCBs related issues. The project was successful in getting approved a new regulation on PCB's environmentally sound management, and a national standard for identification of PCBs in water, soil and insulating fluids. During project duration, two new legislations on POPs and chemicals management were approved in Mongolia as part of national efforts and strategies to domesticate the provisions of the Stockholm Convention on POPs. For capacity building, the project developed technical guidelines the PCB decontamination unit, and organized 12 national and regional workshops where 1200 custom and Specialized State Inspection Agency (SSIA) officers participated. It also organized a policy workshop to raise awareness within the Cabinet Secretariat of the Government, and as per feedback the "workshop greatly contributed to increase the visibility of the project and gain the full support of the policy makers" (TE pg 12). The project also developed a short cognitive video and broadcasted it on national TV channels, developed brochures for raising awareness on PCBs and textbook on POPs and PCBs for curricula of higher educational institutions. In regard to strengthening laboratory capacity for PCBs monitoring, laboratory staff were trained, the Institute of Chemistry and Chemical Technology (ICCT) laboratory was equipped well for PCB analysis and it was made operational in conformity with international standards. This helped in carrying out over 600 PCB analyses by the laboratory.

**Component 2: Environmentally sound management of PCB-containing electrical equipment:**

This component intended to develop detailed PCB inventory, equip dedicated environmentally sound maintenance capacity for PCB, implement disposal of PCB containing equipment and waste using best available technology, and establish environmental monitoring system. The project was successful in completing the PCB inventory by 2014 covering 21 provinces of Mongolia. Around 1920 tons of equipment with PCB contamination of over 20 ppm were identified and all the equipment was appropriately labeled. For environmentally sound management of PCB equipment, storage transformer facility was built according to international norms, and draft guidelines for management of PCBs containing equipment were prepared. The project introduced PCB mobile treatment unit running on a non-combustion technology and trained staff to operate the unit. However, due to a fire incident the mobile unit was destroyed and there was a delay in implementation before another unit was bought by the project. As there was no insurance bought for the mobile unit, the project incurred additional cost to buy a new unit. The TE stated that although PCB monitoring activities were carried out, inspection or monitoring reports were not available.

4.3 Efficiency	Rating: Moderately Satisfactory
----------------	---------------------------------

The project's efficiency is rated as Satisfactory by the TE, however the project faced time delays and inefficiency in financial expenditure. The project was initially planned for four years but the project started late because of deficiencies in the M&E system and accidental fire to the mobile treatment unit which led to the project lasting for eight years. There were also delays because during the cold season the project could not access the electrical equipment for inventory or for treatment. In terms of financial management, the TE noted that "due to confusion between Sea Marconi, the technology provider, and NPTG, the mobile unit operator, the MTU was not insured, and an additional amount of \$270,000 (NPTG: \$120,000 and project: \$150,000) had to be re-invested for the purchase of a new mobile treatment unit, thus reducing efficiency" (TE pg 19). However, the TE also noted that, despite the delays, the project management costs were kept within the planned budget, and UNIDO found efficient solution to retain staff through another GEF-funded project. Considering the inefficiency in time and financial management, the TER gives a Moderately Satisfactory rating the project's efficiency.

4.4 Sustainability	Rating: Likely
--------------------	----------------

The TE gave a Likely rating to the sustainability of the project because the financial, sociopolitical, institutional, and environmental risks were low and not affecting the sustainability of outcome benefits. The TER also gives a Likely rating as there are no high risks to jeopardize the project results. Below is a detailed explanation of the sustainability criteria:

**Sociopolitical:** The TE stated that the sociopolitical risks were low because Mongolia was signatory to the Stockholm Convention and updated its National Implementation Plan (NIP) with inclusion of new POPs, which was approved by the Government of Mongolia. The project also helped raise awareness of risks related to PCBs and thus, as a result, "project stakeholders, including government officials, laboratory technicians, customs and SSIA inspectors, electricity companies, and citizens in affected areas, have developed a strong sense of ownership of the project's interventions" (TE pg 18).

**Financial:** The project received significant resources from the national counterparts, and during implementation, it was successful treating all the PCB equipment above 50ppm except for four PCB contaminated transformers. Also, the National Power Transmission Grid company representatives informed that they would invest in increasing storage area and train new staff on operation of the Mobile Treatment Unit (TE pg 18). Thus, the financial risks seem low and sustainability is likely.

**Institutional framework and governance:** As per the TE, institutional framework and governance risks are low as the government of Mongolia showed strong ownership towards the project, it adopted PCB regulations in 2012 and was enforced by Specialized State Inspection Agency (SSIA) officers at entry borders in Mongolia. The SSIA conducted an internal training workshop to strengthen the capacity of its inspection officers and included goods and equipment likely to contain PCBs in the list to be controlled at the borders (TE pg 18).

**Environmental:** The project's environmental risks are low as the "hazardous waste generated during the treatment of the contaminated equipment are non-PCB containing and are soundly stored at the premises of NPTG." (TE pg 18).

5.1 Co-financing. To what extent was the reported co-financing essential to the achievement of GEF objectives? If there was a difference in the level of expected co-financing and actual co-financing, then what were the reasons for it? Did the extent of materialization of co-financing affect project's outcomes and/or sustainability? If so, in what ways and through what causal linkages?

The materialized co-financing amount of \$6,929,750 was higher than the expected co-financing amount of \$5,898,318. Most of the co-financing amount was allocated for replacement of oil containing breakers with gas breakers, and rest was for the construction of a building for the storage and hosting the MTU. However, the TE does not mention whether the increase in co-financing had any effect on project's outcomes.

5.2 Project extensions and/or delays. If there were delays in project implementation and completion, then what were the reasons for it? Did the delay affect the project's outcomes and/or sustainability? If so, in what ways and through what causal linkages?

The project experienced significant delays due to deficiencies in the M&E system which delayed the start of the project. During implementation, there was a fire accident which destroyed the mobile treatment unit causing a delay of two years in project operation. There were also delays during the cold season as the project could not access the electrical equipment for inventory or for treatment (TE pg 19).

5.3 Country ownership. Assess the extent to which country ownership has affected project outcomes and sustainability? Describe the ways in which it affected outcomes and sustainability, highlighting the causal links:

The TE stated that the country ownership and driven-ness was high. The project had a National Project Director from the Ministry of Environment and Tourism and the implementation unit was located in "the office of the project director, which facilitated the planning, coordination and organization of project activities. Active involvement was seen from government officers and key stakeholders in project activities such as project steering committee meetings, inventory, and training and awareness workshops, which contributed to successful completion of activities and delivery of quality outputs" (TE pg vi).

## **6. Assessment of project's Monitoring and Evaluation system**

Ratings are assessed on a six point scale: Highly Satisfactory=no shortcomings in this M&E component; Satisfactory=minor shortcomings in this M&E component; Moderately Satisfactory=moderate shortcomings in this M&E component; Moderately Unsatisfactory=significant shortcomings in this M&E component; Unsatisfactory=major shortcomings in this M&E component; Highly Unsatisfactory=there were no project M&E systems.

Please justify ratings in the space below each box.

<b>6.1 M&amp;E Design at entry</b>	Rating: Moderately Satisfactory
------------------------------------	---------------------------------

The TE rated M&E design at entry as Moderately Satisfactory because “many of the proposed objectively verifiable indicators were not SMART and were not sufficiently specific, or measurable, to allow for proper monitoring or evaluation of progress towards meeting project objectives” (TE pg 25). The project design provided baseline information on the institutional and regulatory setting and included location and extent of PCB contaminated equipment. The M&E plan had provision for inception workshop, annual tripartite project reviews, mid-term and terminal evaluations. However, the logical framework’s indicators did not meet the SMART criteria for effective monitoring. Thus, considering the provision of M&E activities but a flaw in indicators, the TER also gives a Moderately Satisfactory rating to the M&E design at entry.

<b>6.2 M&amp;E Implementation</b>	Rating: Moderately Unsatisfactory
-----------------------------------	-----------------------------------

The M&E implementation had many deficiencies due to shortcomings in the M&E design which were not corrected at the Inception Workshop. The mid-term evaluation provided recommendations to revise the indicators to apply SMART criteria, but this was not completed. Although annual progress reports were submitted on time, the annual Project Implementation Reviews (PIRs) were not undertaken before the mid-term evaluation. Consequently, corrective measures were taken and subsequent PIRs were submitted. The project did allocate a budget for M&E activities, but they got mainstreamed in other project activities and, at completion, extra funds had to be mobilized to conduct the terminal evaluation. Given the many shortcomings in M&E implementation, the TER gives a Moderately Unsatisfactory rating.

## **7. Assessment of project implementation and execution**

Quality of Implementation includes the quality of project design, as well as the quality of supervision and assistance provided by implementing agency(s) to execution agencies throughout project implementation. Quality of Execution covers the effectiveness of the executing agency(s) in performing its roles and responsibilities. In both instances, the focus is upon factors that are largely within the control of the respective implementing and executing agency(s). A six point rating scale is used (Highly Satisfactory to Highly Unsatisfactory), or Unable to Assess.

Please justify ratings in the space below each box.

<b>7.1 Quality of Project Implementation</b>	Rating: Satisfactory
--	----------------------

The TE gave Highly Satisfactory rating to the quality of project implementation and supervision by UNIDO. It stated that the “role of UNIDO in the project was crucial for the project to meet its objectives. It has taken timely and critical actions, and provided technical back-stopping by hiring international experts, and introducing PCB treatment technologies to national counterparts. UNIDO’s administrative



support was highly appreciated by the project unit, and it allowed timely procurement of goods and services for the project” (TE pg vi). In addition, the UNIDO project manager, based at the UNIDO Beijing Office, attended the Steering Committee meetings and provided adequate guidance. However, the mid-term evaluations stated that UNIDO failed to adequately insure project equipment and thus, during the fire accident that destroyed the mobile treatment unit, an additional amount of \$270,000 had to be re-invested for the purchase of a new mobile treatment unit. Despite this shortcoming, the project was supervised sufficiently and thus, the TER gives a Satisfactory rating.

<b>7.2 Quality of Project Execution</b>	Rating: Satisfactory
---	----------------------

The project was executed by Ministry of Environment and Tourism (MOET), which established the Project Implementation Unit (PIU) that constituted the NPC and three national experts for legal, data management and inventory. The PIU efficiently executed planning and coordination activities and took charge of technical work, carrying out PCB inventory, drafting legislation and preparing information material. It also revised and took corrective actions based on recommendations provided by the mid-term evaluation. For example “one of the recommendation was to ensure that the PCBs database is more widely available, the project team responded by creating a webpage accessible to the general public, and in particular to PCB owners and utilities” (TE pg 20). Thus, the TER gives a Satisfactory rating to the quality of project execution.

## **8. Assessment of Project Impacts**

***Note - In instances where information on any impact related topic is not provided in the terminal evaluations, the reviewer should indicate in the relevant sections below that this is indeed the case and identify the information gaps. When providing information on topics related to impact, please cite the page number of the terminal evaluation from where the information is sourced.***

8.1 Environmental Change. Describe the changes in environmental stress and environmental status that occurred by the end of the project. Include both quantitative and qualitative changes documented, sources of information for these changes, and how project activities contributed to or hindered these changes. Also include how contextual factors have contributed to or hindered these changes.

The TE stated that the project contributed to the successful treatment of 1,002 tons of PCB (TE pg 16).

8.2 Socioeconomic change. Describe any changes in human well-being (income, education, health, community relationships, etc.) that occurred by the end of the project. Include both quantitative and qualitative changes documented, sources of information for these changes, and how project activities contributed to or hindered these changes. Also include how contextual factors have contributed to or hindered these changes.

The TE does not mention any socioeconomic changes.

8.3 Capacity and governance changes. Describe notable changes in capacities and governance that can lead to large-scale action (both mass and legislative) bringing about positive environmental change.

“Capacities” include awareness, knowledge, skills, infrastructure, and environmental monitoring systems, among others. “Governance” refers to decision-making processes, structures and systems, including access to and use of information, and thus would include laws, administrative bodies, trust-building and conflict resolution processes, information-sharing systems, etc. Indicate how project activities contributed to/ hindered these changes, as well as how contextual factors have influenced these changes.

a) Capacities: The project helped in strengthening institutional capacity through trainings and workshops to various government and technical staff. It also equipped the laboratory with PCB analytical equipment for monitoring.

b) Governance: The TE does not mention changes to governance.

8.4 Unintended impacts. Describe any impacts not targeted by the project, whether positive or negative, affecting either ecological or social aspects. Indicate the factors that contributed to these unintended impacts occurring.

The TE does not mention any unintended impacts.

8.5 Adoption of GEF initiatives at scale. Identify any initiatives (e.g. technologies, approaches, financing instruments, implementing bodies, legal frameworks, information systems) that have been mainstreamed, replicated and/or scaled up by government and other stakeholders by project end. Include the extent to which this broader adoption has taken place, e.g. if plans and resources have been established but no actual adoption has taken place, or if market change and large-scale environmental benefits have begun to occur. Indicate how project activities and other contextual factors contributed to these taking place. If broader adoption has not taken place as expected, indicate which factors (both project-related and contextual) have hindered this from happening.

New standards and legislations on PCB relating to POPs and chemicals management were approved in Mongolia, thereby mainstreaming the GEF initiative at scale.

## **9. Lessons and recommendations**

9.1 Briefly describe the key lessons, good practices, or approaches mentioned in the terminal evaluation report that could have application for other GEF projects.

The following are the key lessons provided by the TE (TE pg 28):

- a) Insurance should be provided for equipment requiring big investments in order to avoid big losses in case of accidental fires or natural disasters such as floods or earthquakes;
- b) Proper planning should be done especially taking into consideration local climate conditions that could avoid delays in project implementation;
- c) There should be consideration of applying different approaches in involving stakeholders such as effective consultative or steering committees, proactive involvement in project activities and effective coordination and information sharing; and
- d) For policy components, the project design should plan for realistic timeframes as policy changes often take time to be materialized.

9.2 Briefly describe the recommendations given in the terminal evaluation.

The following recommendations were provided by the TE (TE pg 27):

- a) There should be adequate baseline, target and SMART indicators adequate baseline, target and SMART indicators;
- b) Equipment should be properly insured to avoid big losses in case of fire accidents or natural disasters such floods or earthquakes;
- c) The government should treat the two remaining PCB containing transformers owned by a mining company and two other PCB contaminated transformers (above 50ppm) located in remote regions. These equipments should be treated soon and labelled properly;
- d) The government should take necessary steps to restore the PCB laboratory at Institute of Chemistry and Chemical Technology as there is a need to have the adequate capacity for PCB identification to prevent entry of imported goods containing PCB in the country;
- e) SSIA inspectors should be trained on proper operation of collecting samples; and
- f) During the implementation phase, the treatment costs of PCB contaminated equipment was paid by the project. According to agreements, it is understood that NPTG would continue to decontaminate PCB equipment but against an operating fee. It is recommended to ensure that the fee charged by the National Power Transmission Grid company is reasonable (TE pg 27).

## 10. Quality of the Terminal Evaluation Report

A six point rating scale is used for each sub-criteria and overall rating of the terminal evaluation report (Highly Satisfactory to Highly Unsatisfactory)

Criteria	GEF IEO comments	Rating
To what extent does the report contain an assessment of relevant outcomes and impacts of the project and the achievement of the objectives?	The report contains adequate assessment of the outcomes and impacts and provides appropriate rating.	S
To what extent is the report internally consistent, the evidence presented complete and convincing, and ratings well substantiated?	The ratings and evidence provided are consistent and seem adequate.	S
To what extent does the report properly assess project sustainability and/or project exit strategy?	The project well assessed the sustainability as per the criteria and provided ratings accordingly.	S
To what extent are the lessons learned supported by the evidence presented and are they comprehensive?	The lessons learned and recommendations are elaborately presented in the report	S
Does the report include the actual project costs (total and per activity) and actual co-financing used?	The TE did not provide a clear project costs per component as well as co-financing information	MS
Assess the quality of the report's evaluation of project M&E systems:	The TE gave rating as well as provided explanation of the M&E process	S
<b>Overall TE Rating</b>		<b>S</b>

## 11. Note any additional sources of information used in the preparation of the terminal evaluation report (excluding PIRs, TEs, and PADs).

The TER did not use any other sources than TE and PAD.