

Terminal Evaluation Review form, GEF Independent Evaluation Office, APR 2015

1. Project Data

Summary project data			
GEF project ID		3528	
GEF Agency project ID		4101	
GEF Replenishment Phase		GEF-IV	
Lead GEF Agency (include all for joint projects)		UNDP	
Project name		Management and Disposal of PCBs in Kyrgyzstan	
Country/Countries		Kyrgyz Republic	
Region		Europe and Central Asia	
Focal area		Persistent Organic Pollutants (POPs)	
Operational Program or Strategic Priorities/Objectives		POPS-1: Strengthening capacity for NIP development and implementation. POPS-2: Partnering in investments for NIP (National Implementation Plan) implementation.	
Executing agencies involved		Ministry of Energy and Industry	
NGOs/CBOs involvement		NGOs through consultations	
Private sector involvement		Private sector as beneficiaries	
CEO Endorsement (FSP) /Approval date (MSP)		December 29, 2009	
Effectiveness date / project start		May 19, 2010	
Expected date of project completion (at start)		June 30, 2014	
Actual date of project completion		June 30, 2015	
Project Financing			
		At Endorsement (US \$M)	At Completion (US \$M)
Project Preparation Grant	GEF funding	0.04	0.04
	Co-financing	0.04	0.04
GEF Project Grant		0.95	0.76
Co-financing	IA own	0.14	0.27
	Government	0.90	0.45
	Other multi- /bi-laterals	0.016	0.055
	Private sector		
	NGOs/CSOs		
Total GEF funding		0.99	0.80
Total Co-financing		1.05	0.78
Total project funding (GEF grant(s) + co-financing)		2.04	1.58
Terminal evaluation/review information			
TE completion date		November 2015	
Author of TE		Hilda van der Veen	
TER completion date		March 15, 2016	
TER prepared by		Matteo Borzoni	
TER peer review by (if GEF IEO review)		Molly Watts	

2. Summary of Project Ratings

Criteria	Final PIR	IA Terminal Evaluation	IA Evaluation Office Review	GEF IEO Review
Project Outcomes	N/R	Moderately unsatisfactory	N/R	Unsatisfactory
Sustainability of Outcomes	N/R	Moderately unlikely	N/R	Unlikely
M&E Design	N/R	Satisfactory	N/R	Satisfactory
M&E Implementation	N/R	Satisfactory	N/R	Moderately satisfactory
Quality of Implementation	N/R	Moderately satisfactory	N/R	Moderately Unsatisfactory
Quality of Execution	N/R	Moderately satisfactory	N/R	Moderately unsatisfactory
Quality of the Terminal Evaluation Report	-	-	N/R	Satisfactory

3. Project Objectives

3.1 Global Environmental Objectives of the project:

The global environmental objective of the project was to provide the Kyrgyz Republic with the tools to achieve compliance with its obligations under the Stockholm Convention on POPs and to substantively minimize the environmental and health risks, both local and global (ProDoc., p. 16).

The Government of Kyrgyzstan signed the Stockholm Convention (SC) in May 2002 and acceded to the Convention in July 2006, thus becoming a formal party and assuming the obligations it entails.

Polychlorinated Biphenyls (PCBs) are an important environmental and health hazard in Kyrgyzstan. Since the 1930s, PCBs were used globally for a variety of industrial uses (mainly as dielectric fluids in capacitors and transformers but also as flame retardants, ink solvents, plasticizers, etc.) because of their chemical stability. In the 1970s it became generally recognized that their chemical stability also represented a serious threat to human health and the environment if they were released. While local impacts are of concern there are also other impacts that are widely distributed, given the chemical's characteristics of bio-accumulating higher in the food chains.

The project had to address five main barriers/problems in order to provide Kyrgyzstan with the tools to achieve effective compliance with respect its obligations under the Stockholm Convention :

- 1) Incomplete knowledge on the extent and impact of the PCB issues,
- 2) Limited awareness about the issue and dissemination of knowledge on how to address it,
- 3) Absence of effective regulatory instruments,
- 4) Limited availability of technical tools,
- 5) Absence of infrastructure and operational capacity (ProDoc., p. 12).

3.2 Development Objectives of the project:

The development objective of the project was “Minimizing environmental and health risks associated with PCBs through strengthening technical and regulatory capacity for the environmentally sound management and disposal of PCBs in Kyrgyzstan” (ProDoc, p. 28).

This objective was to be achieved through the following expected outcomes (ProDoc., p. 28):

- Outcome 1 (a): Comprehensive identification of PCB in the country including in-service electrical equipment, PCB stockpiles/wastes and potentially PCB contaminated sites maintained.
- Outcome 1 (b): Informed stakeholder community including potential holders of PCBs, government agencies, and service providers involved in PCB management, NGOs, impacted communities, and the general public.
- Outcome 2: Development/and implementation of priority regulatory measures to control the import/ export, report, management and ultimate elimination of PCBs.
- Outcome 3: Technical capacity and operational plans in place for the management of PCBs on a long term basis including a designated national laboratory facility.
- Outcome 4: Sustainable capacity to capture, package and securely store PCB stockpiles/wastes and ESM disposal of priority stockpiles.

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

The adoption of appropriate hazardous waste classification of PCBs and PCB contaminated materials was dropped from the indicators of outcome 1 during the inception workshop (January 2011), since it was adopted as part of a UNDP waste management project titled “Capacity Building for Implementation of Sustainable Waste Management Principles in the Kyrgyz Republic”.

The “Establishment of maximum allowable concentrations (MACs) for PCBs in environmental media, consistent with international standards” was dropped from the activities to be implemented for outcome 2 (neither the TE nor the other accompanying documents specify when this happened). This is because following the establishment of the national regulatory registry, all MACs in environmental media are to be regulated by the Law on Public health.

During the project board meeting held in December 2013 it was decided to extend the support two laboratories (outcome 3) instead of one, thus increasing the national analytical capacity to analyze PCBs. Finally, the project procured a gas chromatograph analyzer intended for the laboratory of State Agency for Environment Protection and Forestry (SAEPF). This activity was not foreseen by the project (the decision on its procurement was taken during the project board meeting of September 2013) but was included to allow for cross checking analysis from national laboratories.

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.

4.1 Relevance	Rating: Satisfactory
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The TE rated relevance as “Relevant” and this TER, which uses a different scale, rates relevance as Satisfactory.

The project was in line with national environmental policies, which focus on reducing pollution and eliminating pressure and impacts on human health and the environment. The reduction and elimination of POPs, within the broader context of the sound management of chemicals, remains an integral part of state political, economic and social country development programs in the Kyrgyz Republic, and related priorities have been taken up in the Mid-Term Development Program for the Kyrgyz Republic (2012 – 2014) and in the National Strategy for the country's Sustainable Development 2013-2017.

The project was also relevant for the achievement of the Objective of the Stockholm Convention, which is: “to protect human health and the environment from persistent organic pollutants”. Project outcomes and activities explicitly supported the GEF-4 *Strategic Objective 1: Strengthening Capacity for NIP Development and Implementation*; and GEF-4 *Strategic Objective 2: Partnering in Investments for NIP Implementation of POPs Focal Area Strategy for Persistent Organic Pollutants*. In addition, the project aimed to address most of the national PCB priorities as taken up in Kyrgyzstan’s National Implementation Plan (NIP).

4.2 Effectiveness	Rating: Unsatisfactory
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The TE rated effectiveness as “Moderately unsatisfactory”. This TER downgrades that rating to unsatisfactory because of the five outcomes only the second (outcome 1b) was achieved.

For the first outcome (Comprehensive identification of PCB in the country including in-service electrical equipment, PCB stockpiles/wastes and potentially PCB contaminated sites maintained) the project was supposed to develop a comprehensive PCB inventory for in-service equipment, waste stockpiles and contaminated sites. It also planned to develop and maintain a PCB information system for public use. For this first outcome the project also envisaged developing technical instructions for the management of current and future PCB inventories.

An inventory was developed in two phases. In the first phase the inventory only involved four semi-private and private enterprises. This is because the approval of the new regulation that included provision for inspection was still pending from the government, while the previous regulation that included such unrestricted inspection was abolished in July/August 2012. As a consequence the project could obtain data from private companies only on a voluntary basis. In a second phase (which took place in 2014 and at the beginning of 2015) 52 samples were collected for the analysis of oils from 11 PCB holders. However the TE considers that the results of the inventory supported by the project (in particular the results of the PCB oil analysis) were unclear and not sufficiently substantiated. A PCB information system was developed but it is not properly maintained since the relevant website does report latest results from the PCB analysis conducted by SES on the transformers and waste oils. Regarding technical instructions, a ministerial order named "Inspections of Entities Handling PCB equipment" was developed with support of the project and formally adopted by SIEG. However the order was cancelled when SIEG was dismantled and regrouped under SIET (see Section 7.2). Two new technical regulations were developed ("On electrical equipment" and "On secure maintenance of the electrical equipment and devices") but their approval from the government was still pending when the TE was conducted.

For the second outcome (Informed stakeholder community including potential holders of PCBs, government agencies, and service providers involved in PCB management, NGOs, impacted communities, and the general public) the project was supposed to raise awareness and to develop information on PCBs. Also the project planned to develop educational programs that included chemicals management and PCBs. The project organized a significant number of awareness raising events, which included national and regional level TV programs, press conferences and videos. The project also delivered several publications and a booklet. However when the TE was conducted the training and educational materials developed by the project were not stored in a place that is easily accessible to the public. In addition, the project supported many activities to include chemicals management and topics related to PCBs in relevant educational programs. For example, a model curriculum and lectures on PCBs were prepared and an agreement with the Minister of Education was reached, after which PCB modules were incorporated in the ecology module. More than 70 PhD students from several institutions received lectures on PCBs. Seminars were held to train faculty staff and materials on PCBs were donated to university libraries. In total the project trained aprox. 1000 persons related to the PCB sector.

For the third outcome (Development/and implementation of priority regulatory measures to control the import/ export, report, management and ultimate elimination of PCBs) the project planned to develop a comprehensive national regulatory registry of all PCB containing equipment in service. When the TE was

conducted, the technical regulations "On electrical equipment" and "On secure maintenance of the electrical equipment and devices" had been drafted but both were still pending government approval. This jeopardizes the establishment of a comprehensive national regulatory registry for PCB containing equipment. Except for the PCB containing equipment that was surveyed by the project, it is expected that further action on expanding the inventory to additional PCB holders is unlikely to happen until the regulatory measures are approved. However, the "Rules on registration, exploitation and storage of equipment, materials and waste containing PCB" which spell out responsibilities in terms of the management of PCBs, were adopted by an Order of the MoEI. This order makes provision for the adoption of rules on electrical equipment on a voluntary basis. One company (i.e. NESK) adopted this order internally in March 2015. Also the project supported the development of an amendment to "On sanitary and epidemiological control" that was adopted by Governmental Decree and which regulates export, import and transit of POPs including PCBs. For this third outcome the project also planned to develop legal measures allowing unrestricted regulatory access to information and locations that may have PCBs (wastes, stockpiles, PCB containing equipment). The project contributed to the development of a ministerial order that allowed for unrestricted regulatory access to locations that may have PCBs, however, the order was cancelled in May 2012 following government restructuring and it was never reinstated.

For the fourth outcome (Technical capacity and operational plans in place for the management of PCBs on a long term basis including a designated national laboratory facility) the project was supposed to establish one accredited laboratory for routine PCB analysis in soil, water and air samples. The project supported the capacity building of two national laboratories: the National Laboratory of the Ministry of Health (SES) and the laboratory of the State Agency for Environmental Protection and Forestry (SAEPF). The SES laboratory was already provided with a gas chromatograph (GC) through a World Bank project. The project bought the GC for the SAEPF laboratory. Although international standards and methodologies for the identification and assessment of contaminated sites were adopted, the establishment of laboratories present important deficiencies. The GC was delivered in March 2015 to SAEPF, but when the TE was conducted it was not still installed (TE, p. 53). Moreover, the process for SES accreditation for PCB analysis in water and air was not even initiated and accreditation for the analysis in oil was still pending when the TE was carried out. Although the number of SES staff trained by the project surpassed the original target (i.e. 10), only a few of the trained staff members were still working in the laboratory when the TE was conducted (TE, p. 54). For this outcome the project also planned to develop a long-term plan for the monitoring and phase-out of PCB containing equipment. Such a plan was actually developed but it has not been formally adopted. Some of its recommendations were taken up in the National Strategy for the Sound Management of Chemicals and the National Strategy for Sustainable Development (2013 - 2017), however the TE considers that it is unclear whether these activities will be implemented.

For this fifth outcome (Sustainable capacity to capture, package and securely store PCB stockpiles/wastes and ESM disposal of priority stockpiles) the project planned to establish two nationally designated secure storage facilities, which should have been equipped with the necessary infrastructure for PCB waste stockpiles. In spite of many efforts this proved impossible. Initially the government

refused to allocate land for temporary safeguarding. After the direct involvement of the State Secretary and UNDP's Senior Management team, the MoEI renewed its commitment to identify a temporary storage location and identified a land plot. However, SAEPF requested an EIA. The result was that the establishment of centralized storage facility for PCBs would have been impossible before project completion. The project also planned to assess the feasibility of environmentally sound transformer decontamination locally. A feasibility study was carried out in this regard and the conclusion was that local decontamination of transformers would have been impossible. The project also planned the Disposal of 50 MT of PCB stockpiles by export to a qualified disposal facility. A tender was launched but proposals were clearly above available resources, so no concrete action took place.

4.3 Efficiency	Rating: Unsatisfactory
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The TE rated efficiency as “Moderately Unsatisfactory” and this TER rates efficiency as Unsatisfactory. This is mainly because the project provided very little value for money.

While the most significant outcomes were not achieved (i.e. disposal of PCBs and approval of regulatory measures) the project spent 759,146 US\$ in GEF funding and 74,681 US\$ in UNDP/TRAC funds. Moreover the TE considers (p. 65) that the purchase of a Gas Chromatograph (GC) for the laboratory of SAEPF (98,738.00 US\$) was not necessary. When the TE was conducted the GC was not operational and the SAEPF staff was not probably able to use it to conduct a good quality PCB analysis. Moreover the installation of the GC was not planned in the project document.

Of the total project budget 190,854.06 US\$ was unspent at the time the TE evaluation took place (TE, p. 26). UNDP and the project's national partners expected to return 160,000 US\$ to the GEF at project completion. It was in fact considered that further prolongation of the project would not bring the project closer to achieving its targets, in particular targets related to PCB disposal (TE, p. 26)

4.4 Sustainability	Rating: Unlikely
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Sustainability was rated as “Moderately Unlikely” by the TE. This TER downgrades that rating to “Unlikely” because the financial sustainability is very low as it is the sustainability of the institutional framework and governance.

Financial sustainability was rated as unlikely by the TE and this TER agrees with that rating. A major constraint for future PCB phase-out is thought to be the limited availability of financial resources of the government and PCB owners to cover PCB management related expenses (inventories and export/disposal), as well as the availability of a cheaper (land-based) transportation routes or a (regional, e.g. in Kazakhstan) PCB disposal/destruction option. Without cheaper export/disposal options, it is unlikely the country will be able to cover the costs to dispose of its PCB stockpiles.

Socio-political sustainability was rated as “Moderately Likely” in the TE and this TER agrees with that rating. The TE considers that there do not appear to be sensitive issues or controversies surrounding PCBs. As a consequence socio-political changes are unlikely to have a great impact on PCBs. However, government changes have happened frequently in Kyrgyzstan and they provoked changes in national priorities in the legislation on PCBs and POPs issues (cancellation of orders, delay in approval processes or requests for amendments, etc.).

The sustainability of the institutional framework and governance was rated as “Unlikely” in the TE and this TER agrees with that rating. Important technical regulations on electrical equipment and on secure maintenance of the electrical equipment and devices are still pending government approval. The TE considers (p. 70) that it is unlikely that these regulations are approved soon since the government of Kyrgyzstan has placed a ban on the approval of new regulations in the light of the recent accession of Kyrgyzstan to the regional Customs Union. Without these technical regulations in place, PCB holders are not required to undertake inventories and to dispose of their PCB containing equipment. The project established two laboratories and trained their staff, however a great part of the personnel trained by the project changed position.

The TE rated environmental sustainability as “Moderately likely”. Awareness and capacity on PCB management has improved. PCB holders are better aware of the environmental issues surrounding PCBs, and about 1,000 people were trained in aspects related to PCB management. All this is supposed to contribute to a sound management of PCB containing equipment owned by PCB holders. It is not clear how much PCB waste is present among PCB holders that did not take part in first inventory. These wastes represent a higher environmental risk since it cannot be excluded that they are located in seismic zones or in areas that are prone to landslides.

5. Processes and factors affecting attainment of project outcomes

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?

At the time of the Terminal Evaluation, the project leveraged approximately 779,000 US\$ in co-financing. This was 272,000 US\$ less than the anticipated 1,051,000 US\$. This difference is due to the fact that the co-financing from the Ministry of Energy and Environment (MoEI) eventually did not materialize. Throughout its entire duration, the project encountered many challenges related to the co-financing pledged by the MoEI.

Initially the MoEI has committed in-kind co-financing in the form of two land locations for temporary safeguarding. However after government restructuring the ownership of the intended storage facilities changed and no longer fell under the auspices of the Ministry of Energy. The new Ministry of Energy issued an official letter indicating that it could no longer uphold its co-financing commitments. The fact that the co-financing commitment fell away seriously impacted the project, both because as a result the establishment of a centralized storage facility could not occur, and because of the time and effort required by the project to look for alternative solutions (TE, p.66) which, slowed down the project's implementation. Alternatives had to be explored (e.g. through identification of storage sites through partnerships with local municipalities). The Ministry then renewed its commitment to support the project in identifying a temporary storage location. However due to time restraints (a EIA was required), the storage site was not yet allocated at the time of the TE.

Another co-financing contribution that did not materialize (in time) was the delayed refurbishment of a laboratory room in which the gas chromatograph (GC) donated by the project to SAEPF would have been installed. At the time of the TE the GC not yet installed. Therefore the equipment was not being used.

On the other hand, the project was able to mobilize additional co-financing resources. The project was successful in leveraging an additional estimated 304,000 US\$ from the Czech Trust Fund (an Emergency Trust Fund through a UNDP Special Fund with a particular focus on laboratory training), which were applied to capacity building for laboratory practices related to PCB testing.

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?

In 2010 political unrest in Kyrgyzstan delayed the launch of the project (TE, p. 11).

In the project's PIF and PPG documents, the State Agency for Environment Protection and Forestry (SAEPF) was identified as the project's executing partner. During the project's PPG phase however it was decided that Ministry of Energy and Industry (MoEI) would be the project executing partner, since potential PCB holders were (in-)directly reporting to the MoEI. When the project was to be launched, there was some

hesitation from SAEPP to allow the MoEI to lead the project. This took time to resolve and delayed the project's start.

As mentioned in Section 5.1 the MoEI temporarily withdrew its co-financing commitment. This slowed down the implementation of the project since alternative locations for temporary safeguarding of PCB wastes had to be identified.

However, the project's major delays were related to the results of the PCB inventory, which took almost the entire duration of the project. The inventory results from the NIP process were of low quality to start with. Reasons for which the inventory took very long include political unrest (which prevented access to certain regions in the country to carry out inspections), frequent government changes/turn-over indirectly resulting in challenges to get legislation approved (cancellation of orders, delay in approval processes or requests for amendments, and the like), the absence of any capacity for PCB analysis in the country before the project start, and the significant time it took to convince large equipment holders to take part in studies on their equipment and to accept inventory results. Moreover, no legislation was in place to make the inventory compulsory. The development of the inventory was a preliminary and necessary activity for the rest of the project. Its long duration inevitably prolonged the whole project. Another reason was a temporary GC equipment failure at SES (TE, p. 44). The end the project had two extensions, of six months each. As a result of prolonged duration, the project did not have sufficient funds to cover management costs. Therefore, the project took advantage of synergies with the UNDP/GEF Healthcare Waste Management project and made use of that project's Coordinator and a Project Assistant, while costs for these were charged against the HCWM project (TE, p. 64).

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 project started implementation in June 2010, at the time the April 2010 Kyrgyz revolution escalated in the South of the country leading to what is now referred to as the "2010 June events". As a direct result, major changes occurred at government level, thus jeopardizing country ownership. From the start of the project until the MTE, the government system was changed from presidential republic to parliament, the constitution changed, two general elections were held, and major governmental reforms resulted in considerable changes made to the structure of government institutions. This resulted in changes made to Ministries, inspectorates and reporting lines, frequent turnover of high-level staff (ministers, state secretaries, etc.), changes in national priorities and legislations, halting of legislative approval procedures, changing arrangements on the project's national implementation partners and their roles. The reduced government co-financing is also a sign of low country ownership.

Towards the end of the project (2014 - 2015) a significant increase in the ownership and commitment of the MoEI was noted in the TE. The UNDP CO met with the MoEI Minister who in turn appointed the MoEI State Secretary as the Project Director. This explains why project activities sped up during the final year of the project.

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.

6.1 M&E Design at entry	Rating: Satisfactory
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The TE rated the M&E design at entry as “Satisfactory” and this TER agrees with that rating.

The M&E plan included in the Project Document is comprehensive and in line with the UNDP rules and procedures for Monitoring and Evaluation of (GEF) projects. The plan included Annual Review Reports (ARR)/ Project Implementation Reports (PIRs), a mid-term evaluation, a final evaluation, and audits. A specific budget was properly indicated for each component of the M&E plan.

The project results framework included 22 indicators. The large majority of these indicators are SMART. The measurability and specificity of some of the indicators is weak: this is the case, for instance, for targets and indicators pertaining to Outcome 1(b) “Informed stakeholder community including potential holders of PCBs, government agencies, and service providers involved in PCB management, NGOs, impacted communities, and the general public”.

6.2 M&E Implementation	Rating: Moderately satisfactory
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The TE rated the M&E implementation as “Satisfactory” and this TER downgrade that rating to “Moderately satisfactory”. This is because a good part of the recommendations provided by the mid-term evaluations were accepted but this was not followed by concrete actions to put them in place. This suggests a low capacity to use the M&E system for adaptive management.

However, PIRs were regularly developed and their quality is positive. The mid-term evaluation is well developed and informative.

Data to measure the indicators of the project results framework were properly collected.

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.

7.1 Quality of Project Implementation	Rating: Moderately Unsatisfactory
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UNDP was the project implementing agency. The TE rated quality of project implementation as “Marginally satisfactory”. This TER uses a different scale and rates Quality of Project Implementation as “Moderately Unsatisfactory”. This is because of the lack of a proactive approach in finding a solution to the main project challenge (i.e. export routes), implementation delays, excessive focus on operation procedures rather than implementation issues, and important deficiencies in the project design.

The project was executed following established UNDP Direct Implementation Modality (DIM). As a consequence the TE considers (p. 29) that many partners regarded the project as a UNDP project and not as a project of the Ministry of Energy and Industry (MoEI). UNDP tried to counterbalance this general feeling by ensuring that all major project decisions (e.g. signing off of the Annual Work Plans) were discussed with the MoEI and approved by the project board.

The project had four different project coordinators (PCs) and four project assistants (PAs). Two of the four project coordinators assumed the coordination role on an ad interim basis while also managing another UNDP GEF projects on chemicals and waste. The high turnover compromised a smooth project implementation (TE, p. 29). Moreover, sharing PCs and PAs among projects implied that the attention of the PC and PA were not exclusively focused on the implementation of the PCB project while this projected required full time commitment.

The project hired 68 people and companies for various tasks, which required 68 different procurement and recruitment processes. The TE considers that these processes entailed an incredible amount of work from UNDP staff at the expenses of the time devoted for the coordination and implementation of the project.

One main issue that severely impacted the project's implementation was the lack of export routes. According to the TE the project management unit (PMU) and the national implementing partner should have been more proactive in finding a solution. The project was in fact relying too much on the outcomes and approaches taken by the Kazakhstan PCB.

The mid-term evaluation (MTE) remarked that coordination and information sharing among project partners could be improved. The MTE also recommended that the project had to engage more frequently with its implementation partners to keep them informed of progress and activities. It was observed by the TE that the number of project board meetings had significantly increased during the 2nd half of the project.

The project design presented important deficiencies. The delays observed during implementation and the challenges encountered by the project were caused by a number of barriers. However, the majority of these were not captured in the project design. As a consequence, proper mitigation measures were not developed. Also the project design clearly underestimated the disposal costs for PCBs. It was in fact assumed to export PCBs by train but this was not possible because of import/transportation bans of PCB wastes from other countries.

7.2 Quality of Project Execution	Rating: Moderately unsatisfactory
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The TE rated Quality of project execution as “Marginally satisfactory”. This TER uses a slightly different terminology and rates Quality of project execution as “Moderately unsatisfactory”.

Until May 2012 the former State Inspectorate on Energy and Gas (SIEG) under the Ministry of Energy and Industry (MoEI) was the project's implementing partner. Later a new inspectorate was created named the State Inspectorate for Environmental and Technical Safety (SIETS) and SIEG was regrouped under SIETS (thus becoming the Energy Safety Department). The Project Director position was initially assumed by the Director in SIEG. After this reorganization the project director position was initially assumed by the MoEI Deputy Minister (until the end of 2014) and subsequently by the MoEI State-Secretary. According to TE the appointment of the Ministry's State Secretary as the Project Director greatly improved coordination.

One of the consequences of the absorption of SIEG into SIETS was that the internal order of the State Agency for Environment Protection and Forest that allowed for inspection checks on PCB equipment was cancelled. Moreover, according to the TE, the Energy Safety Department of SIETS was not fully aware of the objectives of the project and of the role of the Energy Safety Department in the management of PCBs. The commitment to PCB management within SIETS appeared to have been significantly reduced as compared to when the MTE was conducted (TE, p. 30).

The MoEI underwent various changes and reorganizations throughout the project's life. These changes affected the involvement of high-level MoEI staff in the project, as well as the co-financing commitments

initially made by the MoEI. Another important consequence was that the approval process of regulations was stalled.

Towards the end of the project (2014 - 2015) a significant improvement in the commitment of the MoEI was noticed. The UNDP CO met with the MoEI Minister who in turn appointed the MoEI State Secretary as the Project Director. As a consequence project activities sped up during the final year of the project.

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 project did not dispose of PCBs, consequently PCB containing wastes (oils and out-of-service equipment) and PCB containing equipment (in-service) remain in the exact same locations as before the project started (TE, p. 71).

PCBs and PCB wastes have now been classified as hazardous wastes. Their import, export, use, re-use and trade is now prohibited. Consequently it can be assumed that the project contributed to reducing the disappearance and sale of PCB containing equipment (TE, p. 71).

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 socio-economic changes. Given the limited achievements of the project it is unlikely that the intervention caused significant socio-economic 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 trained about 1,000 persons related to the PCB sector. They include personnel of companies holding PCBs, faculty staff, PhD students, civil servants (TE, p. xvi).

Two laboratories were installed but their capacity to conduct analysis of PCBs in oil is doubtful. Of the initial eight people of SES trained in PCB analysis, only one was still part of the laboratory staff when the TE was conducted (TE, p. 53). In addition, three SAEPF staff was trained in PCB analysis in oil, however SAEPF could not install the gas chromatograph purchased by the project.

b) Governance

The impact of the project on governance issues was limited because most important regulation developed by the project were still pending government approval when the TE was conducted (TE, p. 42). These included regulations on technical equipment and on secure maintenance of the electrical equipment and devices. Without these technical regulations in place, PCB holders are not required to undertake inventories and to phase-out their PCB containing equipment. The project contributed to the development of a ministerial order that allowed for unrestricted regulatory access to locations that may have PCBs and contaminated sites. However, the order was cancelled in May 2012 (TE, p. 51) following government restructuring and it was never reinstated. The most important achievement obtained by the project on governance issues was that a government decree was approved in January 2010 ("On approval of classification of hazardous wastes and methodical recommendations on hazardous class definition") (TE, p. 32). This decree prohibits import, export, use, re-use and trade of PCB equipment.

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.

No unintended impact took place.

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.

The two most important regulations developed by the project have not been approved by the government. Consequently PCB holders are still not obliged to undertake inventories and to dispose of their PCB containing equipment.

The project developed a long-term plan for the monitoring and phase-out of PCB containing equipment, however the plan was not formally adopted by the relevant authority. Some of the recommendations of the plan were taken up in the National Strategy for the Sound Management of Chemicals and the National Strategy for Sustainable Development (2013 - 2017), but it is unclear whether these activities will be implemented (TE, p. 55).

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.

Most important lessons learned were:

- The single largest challenge of the project was the prohibition of the trans-boundary transportation of PCB containing wastes by land/sea, leaving as an only option export by air. The project was developed based on the assumption that PCB waste and equipment could be exported by rail, through Kazakhstan and Russia for disposal in Europe, and that export/disposal costs would be in the range of 1,000 – 2,000 US\$/ton. Instead, in case Kyrgyzstan had been able to export its PCB wastes, via Kazakhstan to France, the ultimate costs would have been in the range of 13,300 US\$/ton, while in case PCB wastes were exported directly to France, this would have increased to 18,900 US\$/ton. For future projects related to hazardous waste disposal in Central Asia and landlocked countries, these values have to be taken better into consideration.
- One the most significant challenges to the project was the frequent changes of Government. Not only in terms of changes made to institutions, but also the resulting frequent turn-over of high-level officials, changes made to national priorities and changing requirements for the approval of regulatory measures following such changes. There is not much a project can do, except trying to continue building project ownership and relationships with project partners.
- A more thorough analysis of the existing legislation during the project's development would have been helpful before responsibilities are assigned to partners to work on development and approval of regulatory measures. Also the genuine interests of the government in developing and approving legislation would should have been investigated.
- The inventory process should be concluded far in advance of the launch of the international tender for disposal.
- Preferably, laboratory capacity (staff, equipment) would be in place before the project starts in order to ensure a speedy inventory process and to allow for cross-referencing of inventory results.
- Ensure that the tender for the project's disposal takes place as early in the project as possible. In the TORs of the bidding, include support for exploring transportation routes, to avoid that government

departments that have never undertaken this type of work get stuck.

- In the situation that there is uncertainty about PCB inventory results, it might be worthwhile to develop a small-size project that only focuses on conducting a detailed PCB inventory and on supporting regulatory and policy reviews. After which a follow-up PCB project (MSP or FSP) could exclusively focus on disposing of the PCB quantities identified. Alternatively develop a FSP project that focuses on undertaking an inventory during the project's first two years, after which the donor and project stakeholders decide whether the information obtained is sufficient to launch the second phase of the project focusing on disposal.
- Ensure co-financing commitments are clearly understood by project partners. Indicate to partners that if co-financing does not materialize for critical components, the project activities depending heavily on co-financing might be cancelled. In case it is felt that a critical co-financing commitment is uncertain, other resources should be searched for prior to project start.
- Early on in the project involve UNDP Senior Management to engage and ensure buy-in of high-level officials from project partners, which can result in a higher activity level of the national implementation partners, improved project ownership as well as national implementing partners honoring co-financing commitments.

9.2 Briefly describe the recommendations given in the terminal evaluation.

Recommendations are for the remaining life of the project were:

- Once the project has been operationally closed, send a letter to the GEF, informing them of the unspent funds which will be returned upon financial closure of the project. In that same letter, state the amount of funds that UNDP has spent on the project in cash (74,680.76 US\$) and in-kind support (40,000 US\$). State the intentions of the Government of Kyrgyzstan and its partners to develop a second phase PCB project, thus wishing that unspent funds would be retained for such a project.
- Ensure all project related materials are easily accessible to the public/project stakeholders. The project should ensure that all regulatory documents prepared by the project (adopted and drafted) are posted on the <http://www.caresd.net> website, as well as technical guidelines, awareness raising materials, videos, publications and booklets.
- Ensure that the latest PCB inventory results are made available on-line and handed over to MoEI, SIETS, SAEPP and the National Statistics Committee of the Kyrgyz Republic to ensure that results can be tracked periodically as per national statistical reporting and data management. Ensure that MoEI and SIETS have access to the database and that they commit to manage the system in the future (e.g. by signing an MoU).
- Prepare a report summarizing the inventory results at the time of project closure for easy uptake in the NIP update, and include detailed information on low and high content PCBs, their locations, their owners, tonnages, type, etc.
- Prepare a results and lessons-learned report. The Kyrgyzstan PCB management project encountered and overcame many project implementation challenges which are also faced by other land-locked and Central Asian countries. It is very important that project results, lessons-learned and

recommendations are captured in a high-quality end-of-project report.

Recommendations To Address Prior To A 2nd Phase PCB project:

- National partners have to continue demonstrating willingness for PCB management and show this commitment through approval of the technical regulations at government level, which are still pending. If these regulations are not approved before the submission of the application to GEF for a second phase PCB project, GEF might consider not to fund a second-phase. Continued support for approval of technical regulations could potentially be provided by NESK, UNDP and national partners, while using resources from other environment related programs.
- Continue building capacity of Laboratories. If Ministry of Health, SAEPF and the government do not continue to advance the capacity and expertise of the two laboratories supported by the project (SES and SAEPF) the capacity built will soon be lost. It is recommended that SES and SAEPF apply for support from the RECETOX/UNDP Czech Republic Fund for additional capacity building with UNDP assistance or another partner. This capacity building should include support to achieve int. accreditation for SES, analytical capacity of SAEPF and a proper installation of the equipment provided by the project to SAEPF. SAEPF should honor its co-financing pledges and allocate funding to refurbish a laboratory so that the GC provided by the project can be properly installed.
- A 2nd phase PCB project should/would only focus on disposal and destruction abroad. Before a proposal for a second phase PCB project is submitted, the following conditions need to be met by the Government of Kyrgyzstan: i) Technical Regulations on PCB management approved; ii) interim storage site(s) for PCB waste identified and building permits obtained; iii) Confirmed the presence of sufficient - if not all - PCB waste and equipment (> 50 ppm) present in the country and reached agreement with holders on hand-over; iv) Cheaper export routes for disposal abroad identified. Also the realization of the Kazakhstan hazardous waste facility (2018-2020) should be monitored closely, as well as potential for land-based trans-boundary movement of PCB waste (oil and equipment) through Customs Union countries when legislation on PCB transport is harmonized. Until these conditions are not met the submission for a for second phase PCB disposal project should be postponed, as the project's baseline would not have significantly changed.
- For future projects it is recommended that TORs for consultants be grouped, rather than dividing up assignments in very short and small assignments. This would significantly reduce the time the project spends on recruitment and procurement and might ensure more continuity, as experts know they will be engaged by the project for a longer period of time. A reduced amount of consultancy contracts would leave the project coordinator with more time for the technical support of the project.

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 assessment of outcomes and of the achievements of the project is comprehensive. The analysis of impacts is weak	MS
To what extent is the report internally consistent, the evidence presented complete and convincing, and ratings well substantiated?	Rating are well substantiated. Evidence is complete and convincing.	S
To what extent does the report properly assess project sustainability and/or project exit strategy?	Sustainability issues are properly discusses. An analysis of the exit strategy is missing.	MS
To what extent are the lessons learned supported by the evidence presented and are they comprehensive?	Lessons learned are clearly presented along with the key issues they generated them. Lessons have certainly a high learning value	HS
Does the report include the actual project costs (total and per activity) and actual co-financing used?	Actual project costs are included per outcome. Details on co-financing are also reported	HS
Assess the quality of the report's evaluation of project M&E systems:	The analysis of the M&S system is comprehensive, however some more details could have been added.	S
Overall TE Rating		S

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