





Terminal Evaluation (TE) Report of the project

*“Management and Disposal of PCBs in Kyrgyzstan”*



GEF Project ID: 3528

UNDP PIMS Number: 4101

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This report includes the findings of the Terminal Evaluation (TE) of the Global Environment Facility (GEF) funded project “*Management and Disposal of PCBs in Kyrgyzstan” (GEF project ID: 3528; UNDP PIMS Number: 4101)* which started implementation in the Kyrgyz Republic (“Kyrgyzstan”) in May 2010. The project was being implemented by the United Nations Development Programme (UNDP). The project’s Executing Agency/Implementing Partner role was assumed by the Ministry of Energy and Industry. The project was executed following established UNDP Direct Implementation Modality (DIM) procedures.

The objective and outcomes of the project contributed towards the Strategic Objective of GEF-4 for Persistent Organic Pollutants focal area (C.31.10) which sets the long term impact of GEF interventions as the protection of human health and environment by assisting countries to reduce and eliminate production, use and releases of POPs, consequently to contribute generally to capacity development for the sound management of chemicals. The 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*.

The TE report has been prepared by Ms. Hilda van der Veen. The Terminal Evaluation was carried out during the period 10 June 2015 – 31 July 2015. A TE mission was undertaken from 12 - 16 July 2015 during which meetings were held with project partners as well as beneficiaries and a field visit was made to project site (see Annex II).

The evaluation mission team consisted of Ms. Hilda van der Veen (TE Team Leader) who was accompanied to meetings and field visits by the translator (Mr. Jodat Murataliev). During the field visit Ms. Hilda van der Veen, in addition to the translator, was also accompanied by the Environment and Energy Dimension Chief of the Project Management Unit – PMU (Mr. Kumar Kylychev).

Acknowledgements

The evaluator wishes to extend special thanks to all entities and individuals in the various cities and Oblasts of the Kyrgyz Republic who made themselves available for discussions and interviews during the course of the Terminal Evaluation mission that took place from 12 – 16 July 2015, and value their continuous cooperation and assistance during subsequent contacts for clarifications and/or additional information.

The evaluators also like to extend special appreciation to the Project’s Management Unit (PMU) for their cooperation in preparing the itinerary and mission agenda for the evaluation mission, arranging for discussions and interviews with a large number of project partners and a field visit to a project site, which was representative of the phase in which the project found itself at the end of project’s implementation. All of these efforts facilitated an efficient and thorough evaluation mission.

DISCLAIMER

This report is the work of independent consultants and does not necessarily represent the views, or policy, or intentions of the United Nations Development Programme (UNDP).

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# ACRONYMS AND ABBREVIATIONS

APR Annual Project Report

AWP Annual Work Plan

BEP/BAT Best Environmental Practice and Best Available Technologies

CDR Combined Delivery Report

CEIT Countries with Economies in Transition

CPAP Country Programme Action Plan

CPD Country Programme Document

CO Country Office

DIM Direct Implementation Modality

GEF Global Environment Facility

ERC Evaluation Resource Center

FAO Food and Agriculture Organization

FTP Fast Track Procedures

GDP Gross Domestic Product

HQ Headquarters

IA Implementing Agencies

IR Inception Report

IW Inception Workshop

KR Kyrgyz Republic

LCM Life-Cycle Management

LSGB Local Self Governance Bodies

M&E Monitoring & Evaluation

MEA Multilateral Environmental Agreement

MES Ministry of Emergency Situations of the Kyrgyz Republic

MoE Ministry of Energy and Industry of the Kyrgyz Republic

MoH Ministry of Health of the Kyrgyz Republic

MOU Memorandum Of Understanding

MPU Montreal Protocol Unit

MSP Medium Sized Project

MT Metric ton

MTE Mid-Term Evaluation

NEAP National Environmental Action Plan

NGO Non-Governmental Organization

NIM National Implementation Modality

NIP National Implementation Plan for the Stockholm Convention

NPD National Project Director

OFP Operational Focal Point

OP Operational Program

OVI Objectively Verifiable Indicators

PB Project Board

PBM Project Board Meeting

PCB Polychlorinated Biphenyls

PIC Prior Informed Consent

PIR Project Implementation Review

PMU Programme Management Unit

POPs Persistent Organic Pollutants

PPE Personal Protection Equipment

PPG Project Preparation Phase

ProDoc Project Document

PRF Project Results Framework

RACP Regional Assets and Contracts Procurement Committee

RBEC Regional Bureau for Europe and the Commonwealth of Independent States

RCU Regional Coordination Unit

RECETOX Czech Republic Research Centre for Toxic Compounds in the Environment

RRF Results and Resources Framework

SAICM Strategic Approach to International Chemicals Management

SAEPF State Agency on Environment Protection and Forestry under the Government of the KR

SC Steering Committee

SC Stockholm Convention

SES State Sanitary and Epidemiological Control Department

SIETS State Inspection on Environmental and Technical Safety (SIETS) under the Government of the Kyrgyz Republic

SWOT Strengths, Weaknesses, Opportunities and Threats

TE Terminal Evaluation

TOR Terms of Reference

UN United Nations

UNDAF United Nations Development Assistance Framework

UNDP United Nations Development Programme

UNDP-CO United Nations Development Programme Country Office

UNDP-GEF Global Environment Facility, United Nations Development Programme

UNEP United Nations Environment Programme

USD United States Dollar

USSR Union of Soviet Socialist Republics

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# EXECUTIVE SUMMARY

Table 1:Project Summary Table

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Project Title | **Management and Disposal of PCBs in Kyrgyzstan** | | | |
| **GEF Project ID:** | 3528 |  | *at endorsement (US$)* | *at completion (US$)* |
| **UNDP Project ID:** | 4101 | **GEF financing:** | 950, 000 | 759,146[[1]](#footnote-1) |
| **Country:** | Kyrgyzstan | **IA/EA own:** | 135,000 | 274,000[[2]](#footnote-2) |
| **Region:** | Europe and the CIS | **Government:** | 900,000 | 450,000 |
| **Focal Area:** | GEF 4: POPs | **Other:** | 16,000 | 55,000 |
| **FA Objectives (OP/SP):** | (1) POPs SP1 Strengthening Capacities for NIP Development and Implementation,  (2) POPs SP2 Partnering in Investments for NIP Implementation | **Total co-financing:** | 1,051,000 | 779,000 |
| **Executing Agency:** | UNDP | **Total Project Cost:** | 1,951,000 | 1,538,146 |
| **Other Partners involved:** | The Ministry of Energy and Industry of the Kyrgyz Republic and the State Agency for  Environment Protection and Forestry under the Government of the Kyrgyz Republic | **ProDoc Signature (date project began):** | | 23 February 2010 |
| **(Operational) Closing Date:** | **Proposed**:  30 June 2014 | **Actual**:  30 June 2015 |

The project “*Management and Disposal of PCBs in Kyrgyzstan”* is a joint initiative of the United Nations Development Programme (UNDP) and the Government of Kyrgyzstan. The project was implemented by UNDP, the project’s Executing Agency/Implementing Partner role was assumed by the Ministry of Energy and Industry. The project was executed following established UNDP Direct Implementation Modality (DIM) procedures.

The project was approved with a total budget of 1,951,000 US$, of which 950,000 US$ was a GEF grant, 900,000 US$ was supported by the Government of Kyrgyzstan through co-financing contributions (cash/in-kind) contributions and 151,000 US$ was provided as co-financing contributions by other partners.

It should be noted that once the project is has been operationally and financially closed, the project is expecting to return to the project’s main donor (the Global Environment Facility - GEF), approximately 160,000 US$.

The project was approved by the GEF Council in December 2009. The project as approved had a duration of 4 (four) years (May 2010 – June 2014). At the time of the Terminal Evaluation the project had requested an extension twice, both of which were granted, both for 6 months. At the time the Terminal Evaluation took place (July 2015), the project had been operationally closed.

The aim of the project was to minimize environmental and health risks associated with Polychlorinated Biphenyls (PCBs) through strengthening technical and regulatory capacity for the environmentally sound management (ESM) and disposal of PCBs in Kyrgyzstan.

The project’s logical framework consisted of the following outputs/outcomes:

* **Outcome 1(а)**: Comprehensive identification of PCBs 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.
* **Outcome 5:** Monitoring, learning, adaptive feedback, outreach and evaluation

For more detailed information on the project’s sub-components, kindly refer to the Project Logical Framework presented in Annex I (Annex A) and Annex II.

MAIN EVALUATION FINDINGS

In Table 2 is an overview presented of the ratings, which have resulted from this project’s Terminal Evaluation. Overall the project’s implementation has been rated as **Marginally** **Unsatisfactory (MU)**.

**Table 2:** Evaluation Rating

|  |  |  |  |
| --- | --- | --- | --- |
| **1. Monitoring and Evaluation** | ***Rating[[3]](#footnote-3)*** | **2. IA& EA Execution** | ***Rating*** |
| M&E design at entry | S | Quality of UNDP Implementation | MS |
| M&E Plan Implementation | S | Quality of Execution - Executing Agency | MS |
| **Overall quality of M&E** | **S** | **Overall quality of Implementation / Execution** | **MS** |
| **3. Assessment of Outcomes** | **Rating[[4]](#footnote-4)** | **4. Sustainability** | **Rating[[5]](#footnote-5)** |
| Relevance | R | Financial resources | U |
| Effectiveness | MU | Socio-political | ML |
| Efficiency | MU | Institutional framework and governance | U |
|  |  | Environmental | ML |
|  |  | **Overall likelihood of sustainability** | **MU** |
|  |  |  |  |
| **Overall Project Outcome Rating** | | | **MU** |

Recommendations For This project

This Terminal Evaluation makes two types of recommendations. Firstly, recommendations, which the project should address before it is financially closed to ensure that the projects is properly closed and responsibilities are handed over to national project partners. Secondly recommendations which are suggested to be followed to ensure long term sustainability and to put in place the necessary measures before the development/implementation of a second phase PCB project, which the Government of Kyrgyzstan as well as national project partners, have indicated that they are very interested in (the latter type of recommendations can be found in Chapter 4.

Immediate Recommendations

* **Recommendation #1: Once the project has been operationally closed, sent 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$) and in-kind support (40,000 US$), see also expenditure Table 9 in section 3.2.4). Furthermore state the intentions of the Government of Kyrgyzstan and its partners to develop a second phase PCB project and that it wishes that unspent funds would be retained for such a project, while in the mean time the Government and its partners will continue working on advancing the baseline for a future PCB project.
* **Recommendation #2:** **Ensure all project related materials are easily accessible to the public/project stakeholders.** Before the project comes to an end, the project should ensure that all regulatory documents prepared by the project (adopted and drafted), as well as any other materials prepared by the project, such as (technical) guidelines, awareness raising materials, videos, publications and booklets, tools and the like are posted on the <http://www.caresd.net> website (or any other publicly available website), to ensure that project related documentation remains easily accessible to project stakeholders in the future, even though the project comes to an end.
* **Recommendation #3: Ensure that the latest PCB inventory results are made available on-line (**[**http://tailing.in.kg/**](http://tailing.in.kg/)**) and handed over to MoEI, SIETS, SAEPF and the National Statistics Committee of the Kyrgyz Republic** in both soft and hard copy to ensure that results can be tracked periodically as per national statistical reporting and data management; can be used in future inspections when technical regulations have been approved; and can be reported to the Stockholm Convention when necessary. Ensure that MoEI and SIETS have access to the database and that they make a commitment to manage the system in the future (e.g. by signing an MoU).
* **Recommendation #4: Prepare a report summarizing the inventory results at the time of project closure** for easy uptake in the NIP update, ensure to provide information on low and high content PCBs, their locations, their owners, tonnages, type, etc.
* **Recommendation #5: Prepare a results and lessons-learned report**. The Kyrgyzstan PCB management project has encountered and overcome many project implementation challenges which are also faced by other land-locked and Central Asian countries. It is therefore very important that project results, lessons-learned and recommendations would be captured in a high-quality end-of-project report.
* **Recommendation #6: Use some of the remaining project funds to retest a limited number (~ 5, in particular those which are expected to have higher PCB levels) of the PCB oil samples at an accredited laboratory** (possibly in Kazakhstan as it disposes of several) to verify the quality of PCB analysis conducted by SES. If it turns out SES analysis results were too far off, the project should consider retesting all the samples. **Note**: Recommendation has already been implemented.

Lessons-Learned

* **Lesson-Learned: The single largest challenge of the project has been 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$/tonne as per experiences from other PCB management project in CIS countries. Instead, in the situation that Kyrgyzstan had been able to export its PCB wastes, via Kazakhstan to France for disposal, the ultimate costs would have been in the range of 13,300 US$/tonne, in case it would have exported PCB wastes directly to France, this would have increased to 18,900 US$/tonne. The project simply did not have sufficient funds available, and cost-effectiveness might not have been acceptable to the donor. For future projects related to hazardous waste disposal in Central Asia and landlocked countries, these aspects have to be taken better into consideration.
* **Lesson-Learned: One the most significant challenges to the project has been the frequent changes of Government.** Not only in terms of changes made to the 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. Depending on who assumed the PD role at a given time, or represented a certain partner, and his/her commitment to the project, had a direct influence on the commitment of that partner to help advance the project’s implementation. Except for going along with the changes, there is not much a project can do, except to try to continue building project ownership and relationships with project partners.
* **Lesson-Learned: Prior to project start – conduct an in-depth assessment of capacity of all project partners** and determine their willingness (staff time, co-financing) to actively participate in the project as well as their capacity to achieve the results that they will become responsible for. Clearly set responsibilities and determine roles and hold partners accountable throughout project implementation.
* **Lesson-Learned:** A more thorough analysis of the existing legislation during the project’s development and verifying the genuine interests of the government in developing and approving legislation would have been helpful before responsibilities were assigned to certain partners to work on development and approval of regulatory measures.
* **Lesson-Learned:** Establish a dynamic working group in which all relevant project partners are represented. For example establish 1) A technical working group, which meets on a weekly basis and for which monthly targets are set and among which meeting minutes are shared; and 2) A political high level working group to ensure buy-in from high-level decision makers representing the project’s partners and project ownership that goes beyond the technical staff of the project partners. Involve all critical partners, in particular the Ministry of Justice, as well as large PCB holders, as later on that will save time in getting regulatory measures cleared and approved. Ensure project partners also participate in field visits.
* **Lessons-Learned:** The inventory process should preferably be concluded far in advance of the launch of the international tender for disposal.However,in the case of Kyrgyzstan the 2nd phase inventory results became only available in February 2015, due to various challenges encountered. In the mean time – to safe time, to determine whether the project budget did contain sufficient remaining funds for disposal, and to explore the option to merge PCB wastes with PCB wastes from Kazakhstan – the project launched an open ended tender for various scenarios (direct export by plane to France, export via Kazakhstan to France) and various amounts of PCB wastes (20, 34 and 50 tonnes).
* **Lesson-Learned:** Preferably,laboratory capacity (staff, equipment) would be in place, before the project starts in order to ensure a speedy inventory process and allow for cross-referencing of inventory results. As part of the Kyrgyzstan PCB project a gas chromatograph was installed at SES in 2012, after which capacity building needed to take place to ensure staff was able to analyze PCB levels in oils. This took a significant amount of time and in turn delayed other project activities.
* **Lesson-Learned:** 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 those departments in government that have not undertaken this type of work before, to get stuck. It is also a great learning experience for Chemical Convention Focal Points to work closely with a disposal company and learn how trans-boundary clearance procedures work.
* **Lesson-Learned:** In the situation that there is a lot of uncertainty about PCB inventory results, it might be worthwhile to either i) Develop/Implement a small-size project (MSP) that only focuses on conducting a detailed PCB inventory and supporting regulatory and policy review and strengthening, after which a follow-up PCB project (MSP or FSP) could exclusively focus on disposing of the PCB quantities identified, or alternatively ii) Develop/Implement a FSP project that focuses on undertaking an inventory during the project’s first two (2) 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.
* **Lesson-Learned:** 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 component depending heavily on co-financing might be cancelled. In the situation when during project development it is felt that a particular critical co-financing commitment is uncertain, try to find other resources to fund this component prior to project start.
* **Lesson-Learned:** 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.

Conclusions

The project has been evaluated against the GEF and UNDP evaluation criteria, which are the following: **Relevance** - **Relevant** (Section 3.3.2), **Effectiveness** – **Marginally Unsatisfactory** (Section 3.3.3), **Efficiency** – **Marginally Unsatisfactory** (Section 3.3.3), **Impact** – **Marginally Satisfactory** (Section 3.3.8) and **Sustainability** – **Marginally Unlikely** (Section 3.3.7). Additional information on why these ratings were provided can be found in the sections listed.

In terms of conclusions, going beyond the evaluations findings and identifying underlying priority and issues, the evaluator concludes the following:

Table 3: Project Conclusions

|  |  |
| --- | --- |
| Evaluation Criterion | CONCLUSION |
| Relevance (R) | The project was considered to be Relevant (R) towards 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*. Furthermore, most of the national PCB priorities as taken up in Kyrgyzstan’s National Implementation Plan (NIP), the project aimed to address.  The project was also 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 programmes in the Kyrgyz Republic, and related priorities have been taken up in the **Mid-Term Development Programme for the Kyrgyz Republic (2012 – 2014)** and the **National Strategy for the country's Sustainable Development 2013-2017**.  As such, work undertaken within the scope of the project under evaluation is deemed **Relevant (R)** in light of broader national development objectives. |
| Effectiveness (S) | The project’s objective: “*Minimizing environmental and health risks associated with PCBs though strengthening* ***technical*** *and* ***regulatory*** *capacity for the environmentally sound management and disposal of PCBs in Kyrgyzstan*” has been partially achieved, hence **Effectiveness** has been rated as **Marginally Unsatisfactory (MU)**.  The project aimed to achieve this project objective through five (5) main outcomes, which (summarized) entailed the following: 1a) **Conduct a PCB inventory**; 1b) **Raise awareness of stakeholders**; 2) **Develop and implement regulatory measures**; 3) **Manage PCBs on a long term basis**; and 4) **Disposal of priority PCB stockpiles**.  **Inventory**: The project was built on results from the NIP PCB inventory which proved underestimated and in turn required a lot of additional time, effort and funding from the project to establish a better baseline, during the PPG phase as well as during project implementation. The April 2010 Kyrgyz revolution, which escalated in the South of the country, severely delayed the project (as it was followed by numerous government changes) and in particular inventory activities, as it prevented access to sites in the south of the country. Nevertheless the project was able to eventually reach out to ~ 250 potential holders, identified 52 transformers that potentially contained PCBs and confirmed by laboratory analysis that PCB concentrations were less than 50 ppm, as well as identified 579 PCB containing capacitors – 34 tonnes (NESK).  The inventory took a considerable long time (2010 – Feb 2015) and mostly surveyed government owned entities[[6]](#footnote-6), the majority of private and semi-private entities did not participate in the inventory because no regulatory requirements to provide information on and access to potential PCB containing equipment and wastes were in place).  Additional delays in completing the inventory seemed to be the time it took the project to convince potential PCB holders to grant access to allow for PCB oil sampling, as well as some technical failure of the GC owned by SES, which required repairs by the distributor. At the time of the TE, inventory results were still inconclusive even though the analysis results from the 2nd phase of the inventory results had been presented by SES in February 2015. At the request of the evaluator, a number of samples (7) were retested in Kazakhstan to provide cross-reference results and confirm the findings – and the way in which these findings were presented – of the SES laboratory.  Overall it was felt by the Evaluator that the project took too long to complete the inventory. The inventory being delayed so much impeded the project’s decision making (e.g. the launch of the international bidding process for the packing, storage, transport and disposal of PCB wastes was undertaken without having the final inventory results at hand – and were thus based on identified and confirmed PCB quantities at that time, as well as a number of estimates – 20 tons (estimate); 34 tons (confirmed), 20 tons and 50 tons (estimate)). This is not common practice for a PCB project as normally a bidding process for export and disposal is launched after the results of the inventory results have been presented, as it allows for a better estimate of the waste tonnage to be disposed of.  **Engagement of stakeholders**: One of the main challenges encountered by the project was to i) ensure inter-agency coordination between relevant ministries and agencies; and ii) obtain the commitment of PCB holders to activity participate in the project. The project spent an enormous amount of time to ensure that line ministries were communicating/liaising among each other to help advance the objectives and activities of the project. The numerous government changes throughout the project’s duration and the confusion at the start of the project regarding implementation partner arrangements made this task even harder. At the end of the project’s implementation, the project met with ministries on a weekly basis and held regular Project Board meetings.  The engagement of PCB holders was even more challenging. The precarious financial situation in which the country as well as PCB holders found themselves throughout project preparation, significantly inhibited project progress and commitment from the holders’ side. In other PCB projects, with a similar budget (e.g. Jordan), most project funding was spent on the inventory (only 160,000 US$ for the disposal of 50 tonnes) but in Jordan PCB holders were very willing to participate in the inventory, grant project access to equipment and when PCBs were identified, hand-over such equipment free-of-charge to the project. This was not the case in Kyrgyzstan, where due to the poor economic conditions, holders saw a lot of value in PCB containing equipment and wanted to run such equipment as long as possible to avoid the costs for replacement. Because there was no legislation in place, such holders were not incentivized to participate in the project or phase-out such equipment. The attitude of holders towards equipment significantly delayed the execution of the 1st and 2nd phase of the inventories.  **Awareness raising**: In total, the project organized 33 workshops, information seminars and round tables. During these events 810 stakeholders were trained. In addition, NESK trained 300 of its staff on the implementation of the “*Rules of management, handling and disposal of the PCBs containing materials, equipment and devices to regulate identification, collection and handling PCBs*.” As a result of this training, which was complemented by the release of news paper articles, TV programs, publications, booklets and press conferences (mostly targeting the general public), the risk from PCBs has been reduced as PCB holders, government entities, laboratories and the general public have gained awareness on the risks posed by PCBs. A large portion of PCB holders has received training on the sound management of PCBs. Personnel who come in close contact with PCB containing wastes and equipment are better informed and capacitated on how to safely handle and maintain these, thus safeguarding their own health, that of others and the environment.  **Regulatory measures**: A major challenge faced by the project throughout its implementation was the non-approval of the Technical Regulations on PCB Management (drafted by the project), which would allow MoEI and other partners to obtain inventory information on PCB equipment and wastes held by private and semi-private enterprises and would make a PCB inventory compulsory and set PCB phase-out dates for all PCB holders. The fact that these technical regulations have not been approved is in part due to the many government changes which occurred throughout the project’s implementation, and the legal reform processes which followed as a result of these, which sometimes required the project to make changes to already drafted/submitted regulatory pieces, or which occasionally resulted in regulatory measures already in place and critical for PCB management, being cancelled (e.g. order #1, MAC values, etc.). As has been mentioned in the TE report, the project did not involve the Ministry of Justice in its working group on regulatory instruments, which might, in retrospect, have facilitated the approval of developed regulatory drafts. Finally the recent accession of Kyrgyzstan to the Customs Union (12 July 2015) resulted in a ban on the approval of new regulations, which has been in place since August/September 2014. As a result of Kyrgyzstan’s accession to the CU, most existing laws lost effect and required to be adjusted to the CU’s standards and norms. As a result, the Technical Regulations had not been approved at the time of the TE[[7]](#footnote-7) and the evaluator felt that these regulations would not be approved any time soon. This negatively impacts the sustainability of long-term PCB management and phase-out.  **Manage PCBs on a long-term basis**: The project developed a long-term PCB phase-out plan for the monitoring and phase-out of PCB containing equipment, but the plan was never adopted (most likely because there was a lack of national financing for its implementation, which often is the reason in Kyrgyzstan to not approve of a plan), although some of its recommendations have been taken up in the National Strategy for the Sound Management of Chemicals and the National Strategy for Sustainable Development.  Capacity of the SES and the SAEPF laboratory was built through the provision of national and international training (with substantial support from RECETOX) and the provision of equipment and laboratory disposables (2 Gas Chromatographs, reagents, standards, etc.). Support to SAEPF was initially not foreseen as part of the project, and considering the fact that at the time of the TE the GC has not yet been properly installed (awaiting the refurbishment of a laboratory room to house the GC which will be provided as SAEPF co-financing) and the assumption that overall capacity for SAEPF to conduct quality PCB analysis on its own appeared not to be sufficient, makes for the conclusion that laboratory support to SAEPF might not have been critical.  With respect to SES laboratory capacity the evaluation team felt that there remain gaps, however if the MoH and SES continue to commit to completing the national accreditation process for PCB analysis and continue to work with an international reference laboratory programme to prepare for international accreditation, these gaps might be addressed and SES would be able to provide quality PCB analysis in the future.  In terms of contaminated sites management, the project has provided training which included the identification and assessment of POPs contaminated sites, as well as analytical aspects. However in reality the project has not worked on the identification and analysis of contaminated sites.  **Disposal of priority PCB stockpiles**: At the time of the TE, the project had identified a potential site for interim storage of PCB wastes in the sanitary zone assigned by the MoEI. However it was deemed unlikely by the TE team that after project closure a storage facility would actually be built there in the near future, due to various reasons, which have been discussed in more detail in the TE report. The main reasons for (a) storage facility(ies) not being in place at the end of the project are due to the many government changes which initially led to MoEI co-financing not materializing (although this was rectified later during the project’s implementation through a renewed commitment of the MoEI). A second reason is that in general it has been very challenging in Kyrgyzstan to identify sites and facilities for the (interim) storage of hazardous wastes (e.g. POPs pesticides). For example, regional POPs pesticides projects (FAO, UNEP, World Bank) have been struggling in a similar way to identify suitable locations that would be able to obtain the right permits and approval for hazardous waste storage.  In conclusion, considering that no cost-effective export routes for PCBs were identified during the project (see below), it might be for the best that for now PCB containing equipment (all on-line) remains with its owners who have been trained on PCB management and equipment maintenance, rather than being removed from the grid and subsequently stored in a centralized facility for which the Government might not have the necessary financing to manage it in accordance with the requirements of the Basel and Stockholm Conventions.  With respect to the actual destruction/elimination of PCBs, the project identified only one feasible option for PCB export, which was via air (the Kyrgyzstan PCB project faced the same challenges as the Kazakhstan PCB project, which exported the country’s high content PCB oils and capacitors by plane, which came to approximately 7,000 US/tonne). During the project’s development phase, costs for export/transport and disposal were estimated at 1,000 – 2,000 US$/tonne, however ultimately costs for export (by air) turned out to be in the range of 13,300 – 18,900 US$/tonne. At the time the international bidding process for export/disposal was concluded (Nov 2014) the project did no longer have sufficient funds available to cover the export and disposal of the 34 tonnes of confirmed PCB containing equipment and decided that anyways the “cost effectiveness” for PCB disposal was too high to consider it a feasible and acceptable solution (also in light of the disposal of stockpiles that might have to be disposed in the future).  In conclusion, it was felt that the project was unfortunate in this sense, it found itself – like the PCB management project in Kazakhstan – in the ill-fated situation that PCB wastes could not be exported by land based routes (In comparison, a PCB project in Jordan with a similar budget to the Kyrgyzstan project, only had to spent 160,000 US$ on the disposal of 50 tonnes of PCBs, 3,200 US$/tonne). During the project’s development these restrictions had not been in place and therefore the project had assumed export by land and prepared a project budget in line with those assumptions. Kazakhstan was able to benefit from economies of scale (filling a plane to the maximum capacity), while in the case of Kyrgyzstan not sufficient high content PCB wastes had been identified, which made the costs per tonne even higher.  In conclusion, considering PCB wastes are still in their original locations *the* *environmental and health risks associated with PCBs though the strengthening of* ***technical*** *and* ***regulatory*** *capacity for the environmentally sound management and disposal of PCBs in Kyrgyzstan* cannot be said to have been **minimized**. However, as a result of the project, the risk from PCBs has been **reduced** as PCB holders, government entities and laboratories have gained awareness on the risks posed by PCBs and a large portion of PCB holders has received training on the sound management of PCBs. Personnel who come in close contact with PCB containing wastes and equipment are better informed and capacitated on how to safely handle and maintain these, thus safeguarding their own health, that of others and the environment.  It is for the reasons mentioned above that the project’s **Effectiveness** is rated as **Marginally Unsatisfactory (MU)**. |
| Efficiency (MS) | Project activities were implemented in such a way that cost-effectiveness was aimed for throughout project implementation, the most common way for the project to do this was making use of national and international bidding procedures for the procurement of services and goods.  It should be mentioned though that the project seemed to have entered into too many contracts (individual contractors (44) and institutions (19)) to undertake and support various project activities. Considering the sometimes lengthy procedures such recruitment and procurement procedures can result in, it is felt that a lot of effort of the project team was lost on managing these processes, rather than focusing on the technical aspects of the implementation of project activities, some of which could have been undertaken by the project team itself, if they would have had the time for that, and would not have been tied up to this extent in operational procedures. Throughout its duration, due to high turn-over, the project also had 4 project coordinators. The project lost valuable time hiring new project managers and bringing them up to speed.  As the project was extended twice (in total by a year), the project ran out of Project Management Costs (PMCs) which was only budgeted to cover the salary costs of the Project Coordinator and Project Assistant for four (4) years and not for five (5). The project resolved this by sharing (twice) the PC and PA with other GEF financed POPs projects, which allowed for continued project management oversight, without the need to tap into the budgets of other project components.  The project spent funding on the procurement of a GC for the SAEPF, an activity that was not taken up in the project document but was decided upon during a PB meeting in September 2014 following a strong request from SAEPF. Considering at the end of the project the GC had not been installed and SAEPF required a lot more capacity building to be able to undertake quality PCB analysis and function as a reference laboratory for SES, the suggestion could be made that this funding should not have been spent as it did not meet the initial expectations of the PB and was not foreseen as part of the project. It is also suggested that the decision to spend this funding should have awaited the outcomes of the international PCB tender before allocating these funds to the purchase of a GC.  The fact that the project did not have sufficient funds to cover disposal of PCBs, on the one hand avoided it becoming the project with the lowest costs-efficiency for PCB disposal world wide (13,300 – 18,900 US$/tonne as compared to 2,000 – 3,000 US$/tonne on average), but by not achieving disposal, relocation or improved storage for PCBs – the project also ended up with a very low cost-efficiency as no significant Global Environmental Benefits (GEB) were achieved, but the majority of project funds were spent (81%). It could also be argued that in order to dispose of the identified high content PCB wastes, additional co-financing could have been leveraged from the holder and government, although this would have been unlikely to materialize because of the precarious financial situation in which the country finds itself.  In conclusion, the project’s efficiency has been rated as **Unsatisfactory (U)** as per the reasons presented above. However the evaluator is pleased to point out that the project took a reasonable decision to return remaining project funds (~ 160,000 US$) to the GEF. |
| Impact (S) | High content PCB containing equipment (34 tonnes of PCB capacitors owned by NESK) remain in their original location (in service), as such the situation has not changed as compared to the situation at project start.  However, the project did reach out to over 250 PCB holders, and resulted in the training of 1,000 personnel and staff to create awareness and capacity in the handling, maintenance and management of PCBs. Because awareness on PCBs has significantly been increased, the likelihood of cross-contamination, spills and improper management has also been significantly reduced, thus reducing the risks to human and environmental health. During field visits to PCB owners, project experts also informed owners on proper safeguarding measures and what to do in case of a spill. Because import/export/use/re-use/trade of PCBs and PCB containing wastes and equipment is now prohibited and PCBs have been classified as hazardous wastes, in combination with the work undertaken by the project to support the inventory, has stopped (to the knowledge of the project) the disappearance and sale of PCB containing equipment.  There is thus a reduced likelihood of PCBs entering the local and global environment. However, supporting legislation has to be approved and endorsed the soonest, as the safeguarding of PCB stockpiles is currently not guaranteed.  In conclusion, the project has “*demonstrated progress towards these impact achievements*”, as such the impact of the project has been evaluated as **Marginally** **Satisfactory (MS)**. |
| Sustainability (L) | The evaluation rated the various aspects of Sustainability (Financial Resources; Socio-Political; Institutional Framework & Governance; and Environmental) and concluded that the overall Sustainability was deemed **Moderately Unlikely (MU)**.  **Financial Resources**: 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/willing to cover the costs to dispose of its PCB stockpiles.  In terms of **Socio-Political** aspects, government changes in the past have proven that they can result in a change of national priorities, as well as changes in legislation (cancellation of orders, delay in approval processes or requests for amendments, and the like), which indirectly might impact PCB related priorities and the pending approval of legislation governing PCB and POPs issues in the future.  Regarding **Institutional Framework & Governance** aspects it should be mentioned that although import/export/use/re-use/trade of PCBs and PCB containing wastes and equipment is now prohibited and PCBs have been classified as hazardous wastes thanks to the project, important technical regulations, in particular the Technical Regulations "On electrical equipment" and "On secure maintenance of the electrical equipment and devices" are still pending government approval. It is unlikely that these regulations will be approved soon. However, without these Technical Regulations in place, PCB holders are not required to undertake inventories, and phase-out their PCB containing equipment.  In terms of capacity of laboratories, the evaluation concluded that the two laboratories (SES and SAEPF) have to work hard to continue to improve their capacity for PCB analysis if not capacity built by the project might soon be lost due to high staff turnover. Inventory results need to be updated on the website and that the latest PCB inventory results should be shared with MoEI and SIETS presented in an easy to understand format, so that these results remain easily accessible to all stakeholders.  **Environmental**: Awareness and capacity on PCB management has been significantly increased; PCB holders are much better aware of the environmental issues surrounding PCBs, and ~1,000 people have been trained in aspects related to PCB management. This all will benefit the future environmentally sound management of PCB containing equipment owned by PCB holders.  Future environmental risks could be related to seismic activity and landslides, which might in particular impact waste storage locations at PCB holders (in particular those that have no taken part in the first inventory, as it is unclear how much PCB waste is present, whether it concerns high content PCB oils, where it is located, etc.). It is for this reason that the MoEI and its partners should continue to identify a secure, environmentally risk safe and centralized safeguarding location for those PCB wastes that cannot be safely stored at holders. |

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# 1. INTRODUCTION

This Terminal Evaluation (TE) has been initiated by the Kyrgyzstan UNDP Country Office. In accordance with UNDP-GEF Monitoring and Evaluation guidelines all full and medium-sized UNDP supported GEF financed projects are required to undergo a TE upon completion of project implementation.

The TE report has been prepared by one independent consultant, Mrs. Hilda van der Veen. The Terminal Evaluation was carried out during the period 10 June 2015 – 31 July 2015. A TE mission was undertaken from 12 - 16 July 2015 during which meetings were held with project partners as well as beneficiaries and a field visit was made to project site (see Annex III and IV).

## Purpose of the Evaluation

The objectives of the terminal evaluation were to assess the achievement of project results and objectives, and to draw lessons that can both improve the sustainability of benefits from this project, and aid in the overall enhancement of UNDP programming.

## Scope & Methodology

The methodology applied to conduct the terminal evaluation is compliant with international criteria and professional norms and standards; including the norms and standards adopted by the UN Evaluation Group.

The TE has been conducted in accordance with the guidance, rules and procedures established by UNDP and GEF as reflected in the [*UNDP Evaluation Guidance for GEF Financed Projects*](http://www.thegef.org/gef/sites/thegef.org/files/documents/ME_Policy_2010.pdf), in the GEF Monitoring and Evaluation policy and [*Guidelines for Conducting Evaluations*](http://www.thegef.org/gef/node/1905); as well as the [*UNDP Monitoring and Evaluation Policy*](http://web.undp.org/evaluation/policy.htm).

The TE has been undertaken in-line with GEF principles, which are: *independence*, *impartiality*, *transparency*, *disclosure*, *ethical*, *partnership*, *competencies/capacities*, *credibility* and *utility[[8]](#footnote-8)*.

The TE has also considered the two GEF evaluation objectives at project level, namely (i) promote accountability for the achievement of GEF objectives; including the global environmental benefits; and (ii) promote learning, feedback and knowledge sharing on results and lessons learned among the GEF and its partners.

The TE has been conducted and the findings have been structured around the UNDP/GEF five (5) main evaluation criteria2. These are:

***Relevance*** Extent to which the activity is suited to local and national environmental priorities and policies and to global environmental benefits to which the GEF is dedicated; this analysis includes an assessment of changes in relevance over time.

***Effectiveness*** Extent to which an objective has been achieved or how likely it is to be achieved.

***Efficiency*** Extent to which results have been delivered with the least costly resources possible.

***Impacts*** Extent to which there are indications that the project has contributed to, or enabled progress toward, reduced environmental stress and/or improved ecological status.

***Sustainability*** Likely ability of an intervention to continue to deliver benefits for an extended period of time after completion; projects need to be environmentally as well as financially and socially sustainable.

In addition to the GEF guiding principles described in the Evaluation Terms of Reference (TORs) see Annex I, the Evaluation Team also applied to this mandate their knowledge of evaluation methodologies and approaches and their expertise in global environmental issues. They applied several methodological principles such as (i) *Validity of information*: multiple measures and sources were sought out to ensure that the results were accurate and valid; (ii) *Integrity*: Any issue with respect to conflict of interest, lack of professional conduct or misrepresentation to be immediately referred to the client; and (iii) *Respect and anonymity*: All participants will have the right to provide information in confidence.

The evaluation has been conducted following a set of steps presented in the Table below:

Table 4: Steps in the Terminal Evaluation

|  |
| --- |
| **I. Review Documents and Prepare Mission**   * Collect and review project documents * Prepare mission: agenda and logistic |
| **II. Briefing / Review Work Plan / Mission**   * Teleconference / Briefing * Finalize mission |
| **III. Collect Information**   * Mission to Kyrgyzstan * Interview key-stakeholders and conduct field visits * Collect further project related documents * Mission debriefing to the Project Team |
| **IV. Analyse Information**   * In-depth analysis and interpretation of data collected * Follow-up interviews (if necessary) and emails for clarification purposes * Elaborate and submit draft evaluation report |
| **V. Finalize Evaluation Report**   * Circulate draft report to UNDP/relevant stakeholders * Integrate comments and submit final report |

The TE findings have been triangulated through the concept of “*multiple lines of evidence*” using several evaluation tools and gathering information from different types of stakeholders and different levels of management. The following evaluation instruments have been applied for this purpose:

***Evaluation Matrix***: An evaluation matrix has been developed based on the evaluation scope presented in the TOR, the project log-frame and the review of key project documents (see Annex VI). This matrix is structured along the five UNDP evaluation criteria and includes all evaluation questions; including the scope presented in the TORs. The matrix provides overall directions for the evaluation, and has been used as a basis for interviewing stakeholders and reviewing project documents.

***Documentation Review***: The evaluator conducted a thorough documentation review in Kyrgyzstan and in the United States. A list of documents for review was identified, with all requested documents being provided by the UNDP Project Team and the Kyrgyzstan UNDP CO (for a full list of the documents, refer to Annex V).

***Interview Guide***: Based on the evaluation matrix (Annex VI), an interview guide was developed (see Annex VII) to solicit information from stakeholders.

***Mission Agenda***: An agenda for the TE mission (12 – 16 July 2015), including a field visit and meetings with project stakeholders, was proposed by the Project Team and reviewed by the evaluator to ensure that it was representative of the project’s scope. Subsequently a number of stakeholders was added.

The TE mission included a visit to one (1) PCB holder (the owner of 579 PCB containing capacitors – the only confirmed PCB containing equipment at the time of the TE); one (1) laboratory (of the two, which have received project support); 1 NGO; and four (4) Government counterparts.

Staff from project stakeholders who were selected for interviews were those that had benefitted from capacity building activities supported by the project (trainings, workshops, awareness raising activities); involved in the PCB inventory and/or identification of export routes for PCBs. Persons selected for interviews were selected from stakeholders’ Environment, Waste and/or Inspection Departments, in particular those that had been actively involved in the project and had detailed responsibilities related to project implementation.

The mission took place over a period of one (1) week, and visited two (2) cities (Bishkek and Cholpon-Ata, Issyk Kul).

***Interviews***: Stakeholders have been interviewed in person through semi-structured interviews using the interview guide presented in Annex VII. Some follow up has been undertaken using email when needed.

***Field Visit***: One field visit (see Annex IV) was conducted during the TE mission in Kyrgyzstan to provide the Evaluation Team with direct primary sources of information from the field and project beneficiaries.

***Achievement Rating***: The evaluator has rated project Outcomes, Effectiveness, Efficiency, Monitoring and Evaluation (M&E), Implementing and Executing Agency (I&E) Execution according to the GEF project review criteria using the ratings: *Highly Satisfactory* (HS), *Satisfactory* (S), *Moderately Satisfactory* (MS), *Moderately Unsatisfactory* (MU), *Unsatisfactory* (U), and *Highly Unsatisfactory* (HU).

***Sustainability Rating***: The evaluator has rated the dimensions of sustainability of the project outcomes as follows: *Likely* (L), *Moderately Likely* (ML), *Moderately Unlikely* (MU), and *Unlikely* (U).

***Relevance Rating:*** The Evaluation Team has rated the dimensions of relevance of the project as follows: *Relevant* (R) and *Not Relevant* (NR).

***Impact Ratings***: The Evaluation Team has rated the dimensions of Impact of the project as follows: *Significant* (S), *Minimal* (M), and *Negligible* (N).

The evaluation team also used additional ratings where relevant: *Not Applicable* (N/A) and *Unable to Assess* (U/A).

## Constraints and Limitations of the Evaluation

The Terminal Evaluation and in particular its mission, had a number of limitations, which have been described below:

1. ***The International Evaluator did not speak Russian***. Except for meetings with the project team (PMU) and the UNDP CO all interviews were conducted in Russian. Simultaneous/consecutive translation was provided by Mr. Jodat Murataliev, one of the country’s most recognized translators, and in the case of SES, by the EE Dimension Chief.When using translation, some nuances could be lost, but considering that the translator was very qualified, it is assumed that this has not presented major limitations during the TE mission.
2. ***The Evaluator visited only one (1) location where PCB containing equipment is kept***. This visit represented approximately 50% of the PCB equipment (PCB capacitors) to have been identified in the country. The other 50% of the PCB capacitors are owned by the same company (NESK) and kept under similar conditions but in a sub-station close to the border with Uzbekistan. As such it was deemed sufficient to visit only one (1) location.
3. ***The Evaluator only visited one (1) of the two (2) laboratories supported by the project, and hence only observed one of the Gas Chromatographs financed by the project.*** The Evaluator visited the operational GC installed in SES, and met with the staff that operates the GC. However, the Evaluator did not visit the SAEPF laboratory to observe in what state the GC is stored/installed. It should be noted that it was known to the Evaluator that the SAEPF GC was not installed in a suitable laboratory room as the SAEPF was still identifying co-financing to refurbish an existing room in order to accommodate the GC so it could be properly installed and operated.
4. ***The Evaluator was unable to meet with the project’s previous Coordinators***. Due to very unfortunate circumstances, the previous PC has been hospitalized abroad, while the two (2) prior PCs where abroad during the TE mission.
5. ***The Evaluator was unable to meet with the PCB focal point of SIETS***. During the TE mission the PCB focal point was travelling, and as he doesn’t speak English, no interview was conducted with him by phone/Skype. This is unfortunate because he has been involved in the project since the start and has played a crucial role during the PCB inventory. Luckily, the Evaluator was able to meet and interview him when the MTE was conducted.

## Structure of the Evaluation Report

The structure of the evaluation report is based on the “Evaluation Report Outline” as taken up in the Terms of Reference for the Terminal Evaluation (See Annex I – sub Annex F).

# 2. PROJECT DESCRIPTION AND DEVELOPMENT CONTEXT

## 2.1 Project start and duration

The Government of Kyrgyzstan recognized the environmental and health threats posed by Persistent Organic Pollutants (POPs) at an early stage and signed the Stockholm Convention (SC) in May 2002 and acceded to the Convention in July 2006, becoming a formal party and assuming the obligations it entails.

With the support of a GEF Enabling Activities (EA) Grant through the United Nations Environmental Programme (UNEP) acting as implementing agency, the preparation of the required National Implementation Plan (NIP)[[9]](#footnote-9) was undertaken from 2003 until 2005. The NIP was approved by Government Decree #371 in July 2006 and has been included in the Concept on Environment Security in KR, adopted by Presidential Decree of KR on 23 November 2007, #506.

As part of the EA project in the preparation of the NIP, the group of experts proposed an initial list of national POPs priority actions based on a set of criteria grouped by utility, likelihood and importance, which was discussed and agreed upon with all project stakeholders.

These conclusions along with others applicable to POPs generally were formulated into an Action Plan that was nominally adopted in 2007 for inclusion as part of national environmental policy.

One of the main priorities listed in the NIP was to establish and implement a national PCB Management Plan. To address this national priority, the Government of Kyrgyzstan and UNDP formulated a project proposal entitled “*Management and Disposal of PCBs in Kyrgyzstan”.* The GEF Council approved the project in December 2009. The project as approved had a duration of 4 (four) years (May 2010 – June 2014).

The total budget of the project was 1,351,000 US$, of which 950,000 US$ was a GEF grant, 270,000 US$ was supported by the Government of Kyrgyzstan through co-financing contributions (cash/in-kind), 115,000 US$ was provided as co-financing by UNDP and 16,000 US$ was provided as co-financing contributions by other partners.

The project was implemented by the United Nations Development Programme (UNDP). The project’s Executing Agency/Implementing Partner role was assumed by the Ministry of Energy and Industry. The project was executed following established UNDP Direct Implementation Modality (DIM) procedures.

The project started in May 2010. At the time of the TE the project was 5 years and 2 months under implementation. At the time of the Terminal Evaluation took place (July 2015), the project had nearly stopped implementing activities (with the exception of conducting the TE).

## 2.2 Problems that the project sought to address

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. PCBs are considered to be immune-toxic and affect reproduction with specific adverse effects associated to the chronic exposure being damage to the immune system, liver, skin, reproductive system, gastrointestinal tract and thyroid gland.

While local impacts close to the source of release of these chemicals into the environment are of concern, the primary impacts are widely distributed and effectively global in nature, given the chemical’s characteristics of bio-accumulating higher in the food chain and being subject to long range, multi media transport mechanisms.

During the project’s development, the profile of PCB use and their residual presence in Kyrgyzstan was assumed to be typical of that throughout the former Soviet Union. The chemical was never produced in Kyrgyzstan and would have been produced in other parts of the Soviet Union (Russian Federation, Kazakhstan, Armenia and Uzbekistan) between approximately 1958 and 1993, and would have been imported primarily as a dielectric fluid in larger scale electrical equipment, mainly power transformers and capacitors.

The PCB inventory conducted as part of the NIP identified an overall inventory estimate of 19,230 transformers and 2,373 large capacitors operating in the country and provided a sectoral and regional profile of where this equipment existed. However only two operating transformers (Type TNZ) and 789 in-service capacitors (Type KC) were identified as potentially containing PCBs based on their specification types and a limited sampling program. No actual stockpiles and wastes were identified. Similarly, no reliable information was available on the fate of any retired PCB equipment and waste stockpiles that might have existed in the past, or on transformer maintenance practices and potential for cross contamination in non-PCB equipment. Likewise, orphan equipment that might have been abandoned, or sites that might have potential PCB contamination were not specifically identified. The NIP also provided a review of the legal and regulatory framework governing waste and chemicals management as well as the various institutional responsibilities for it, and assessment of the technical required support capacity such as analytical and monitoring capability, and management infrastructure.

In 2008, during the initial conceptual consideration of current project, a review of the NIP results and the current situation generally concurred with the findings while noting a number of significant questions and gaps that need to be addressed. In particular, the absence of any PCB inventory of substance stood out. The NIP suggested that no substantive PCB issue existed, something that would contradict experience in virtually any other country. A comparative assessment with similar CIS countries in the region suggested that a more realistic number might be in the range of approximately 50 PCB transformers in service. The absence of any stockpiles of retired equipment and associated wastes was similarly questioned as was the absence of any information on potentially PCB contaminated sites.

In order to create a more reliable baseline, the project’s PPG work (2009) focused on elaborating the inventory which was undertaken by the State Inspection for Energy and Gas[[10]](#footnote-10) (now SIETS) who are responsible for the operational and technical regulatory control of electrical equipment and service providers, and involved the review of inspection records, enterprise surveys and site visits. A summary of the PPG inventory results are presented in Table 12. In addition, the project’s PPG work also examined the state of legislative and regulatory development related to POPs, PCBs in particular, and associated waste management issues. Investigation of various technical and infrastructure capacity limitations was also undertaken.

Based on NIP and PPG results, it was concluded that in order to provide Kyrgyzstan with the tools to achieve effective compliance with respect its obligations under the Stockholm Convention and to substantively minimize environmental and health risks from PCBs, both locally and globally, the project had to address five (5) main barriers/problems to achieve the safe and sustainable management of PCBs and replacement of PCB containing equipment:

* **Incomplete knowledge on the extent and impact of the PCB issue**: A significant information gap remain that limit the ability to define the physical extent of issue in terms of the how much PCB equipment, stockpiles/wastes, where contaminated sites exist, and what their impacts are.
* **Limited awareness about the issue and dissemination of knowledge on how to address it***.* The level of awareness generally is low, particularly at a practical level among key stakeholders including technical and environmental regulators, customs officials, equipment owners and service providers. The means to collect and disseminate information and skills necessary to increase this awareness are also lacking.
* **Absence of effective regulatory instruments***:* The necessary detailed regulations and standards to ensure that PCBs can be effectively captured and managed remain to be put in place leaving significant opportunities for avoidance and ultimately continuing release of PCBs into the general environment.
* **Limited availability of technical tools**: There are key gaps in technical capacity in the form of required analytical capability, and supporting procedures, techniques and practices to address knowledge barriers, support regulatory control, and plan for sustainable management of PCBs into the future.
* **Absence of infrastructure and operational capacity***:* Currently, even if PCBs could be identified and captured there is no dedicated capacity to physically provide for its environmentally sound management. Having basic physical capacity to secure POPs stockpiles and wastes, with resources to start ESM disposal is urgently required.

## 2.3 Immediate and development objectives of the project

The **project’s development objective** is to minimize environmental and health risks associated with PCBs through strengthening technical and regulatory capacity for the environmentally sound management and disposal of the PCBs in Kyrgyzstan.

The **immediate objective** of the project is to provide the Kyrgyz Republic with the tools to achieve compliance with its obligations under the Stockholm Convention on POPs.

The project aims to reduce/eliminate the main national barriers to the environmentally sound management of PCBs through the following project components:

**Outcome 1(a):** Comprehensive identification of PCBs 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 regulation 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

**Outcome 5:** Monitoring, learning, adaptive feedback, outreach and evaluation

## 2.4 Baseline Indicators Established

The Project Results Framework (PRF) as taken up in the Project Document contained baseline indicators. A copy of the PRF is included in Annex I: Terms of Reference for the Terminal Evaluation (Annex A).

For the project’s overall objective, the baseline indicators have been provided in the Table below.

Table 5: Project Baseline Indicators and Project Expected Targets

| Project Strategy | Objectively verifiable indicators | Baseline | Target |
| --- | --- | --- | --- |
| **Objective**: Minimizing environmental and health risks associated with PCBs though strengthening technical and regulatory capacity for the environmentally sound management and disposal of PCBs in Kyrgyzstan | Established and sustainable operational and regulatory capacity undertaking identification and management of PCBs in compliance with Stockholm Convention obligations by 2011 | * NIP adopted based on preliminary knowledge of issue. | * Functional regulatory regime covering import/export, identification, capture and securing PCBs for future disposal. |
| * Absence of implementation capacity, either institutionally or physically. | * Informed PCB holders and qualified service providers to undertake PCB management activities. * Operational capacity for ESM of current and future stockpiles and waste. |
| * Fragmented institutional responsibility for issue. | * Clear assignment of responsibilities within the government. |

In addition, multiple baseline indicators were provided for each project outcome, and specific baseline indicators were provided for each end-of-project target and corresponding Objectively Verifiable Indicator (OVI). For details on the baseline indicators, kindly refer to Annex I.

## 2.5 Main Stakeholders

The project was being implemented by the United Nations Development Programme (UNDP). The project’s Executing Agency/Implementing Partner role was assumed by the Ministry of Energy and Industry. The project was executed following established UNDP Direct Implementation Modality (DIM) procedures.

Main project stakeholders were the State Agency for Environmental Protection and Forestry (SAEPF); State Inspectorate for Environment and Technical Safety (SIETS); Ministry of Health and its Department of Sanitation and Epidemiology; PCB holders; UNDP Kyrgyzstan’s Programme Management Unit (PMU) and Country Office (CO); MPU-Chemicals/RCU-Bratislava and UNDP-GEF.

Other key stakeholders were the Ministry of Emergency Situations; Ministry of Labor and Social Security; Ministry of Transport and Communications; Ministry of Education and Science; Ministry of Internal Affairs; Ministry of Defense; State Customs Committee (Ministry of Finance); Industry representation, NGOs, affected communities, women’s groups as well as donors/implementing agencies working in the field of chemicals management.

The project’s stakeholders, their roles and responsibilities pertaining to the management of chemicals and in particular PCBs, as well as their roles in the project’s implementation have been presented in Annex XII.

## 2.6 Expected Results

Essentially what the project was anticipating to achieve was to design and execute a system for the entire Life-Cycle Management (LCM) of PCBs, by demonstrating all aspects related to PCB management that make up this life-cycle, and giving PCB holders and government entities the opportunity to participate in each of these steps at least once.

An overview of the project’s expected results (objectives, outcomes, and outputs/targets) at the end of project implementation are provided in the Project’s Logical Framework as included in its totality in Annex I (Annex A) and Annex XIII (Changes made to the Project Design and Outputs).

An analysis of the attainment of project outputs, outcomes and objectives is presented in Section 3.3 (*Results*), which compares the project’s indicators before the project with the indicators at the time of the MTE.

In addition, the project lists in the Project Document the following Global Environmental Benefits (GEBs) linked to a reduction in POPs release risks resulting from the project:

Global Environmental Benefits to be derived from the Project

|  |
| --- |
| * Providing physical capacity to secure present and future PCB stockpiles such that random release is prevented until they are destroyed. This covers an estimated 210 tons of PCB contaminated equipment and material containing 75 tons of PCBs that might otherwise be released. |
| * Environmentally sound disposal of up to 50 tons of or 25% of currently identified volume of PCB contaminated equipment in the country. |
| * Support for regional solutions related to treatment and disposal of PCBs in the longer terms should create more cost effective solutions for ultimate elimination of PCB stockpiles and waste in a region remote from existing capacity, something that should further stimulate capture and timely destruction of PCBs. |
| * Phase out of 4 priority transformers accounting for 34 tons of PCB containing equipment from service. |
| * Elimination of exposure risk to PCBs to individuals in close proximity to existing stockpiles, and in the future those that might experience such exposure due to the continuation of historical practices. |
| * Planning complete phase out of PCB containing equipment in service on a prioritized basis. |
| * Developing capacity for identification, assessment, prioritization, and clean up action respecting PCB contaminated sites. |
| * Strengthening capability to effectively monitor and analyze for PCBs in the environment and human receptor paths enabling better decision making on priority actions in preventing uncontrolled PCB release, as well allowing performance measurement on the effectiveness of such actions as contributing to global monitoring of the concentration of PCBs in the environment. |
| * Providing for a comprehensive national legislative and regulatory base for control of PCBs and eliminating gaps that allow uncontrolled release. |
| * Developing the knowledge base in terms of information management and technical capacity to sustain planning, decision-making and program execution related to PCBs, as well as engage in effective information exchange nationally and globally. |
| * Creating a high level of awareness by policy makers, stakeholders and the public on the need for environmentally sound management of PCB which will stimulate sustained attention to the issue and timely responses. |

# 3. FINDINGS

## 3.1 Project Design / Formulation

### 3.1.1 Analysis of Project Logical Framework (PLF)

The Project’s Logical Framework (PLF) as developed for the project and incorporated in the signed project document, has been included as part of Annex II (Revised Project Logical Framework) and has been reviewed and assessed as part of this TE.

The PLF outlines the project’s overall objective, the project’s five outcomes, provides pre-project baseline information, presents the project’s overall Objectively Verifiable Indicators (OVIs) as well as Project Targets.

The project was developed against a set of 22 Objectively Identifiable Indicators (OVI), which were identified during the design phase. In Annex II, the Objectively Verifiable Indicators as presented in the Project Logical Framework (PLF) have been assessed according to their Specificity (S), Measurability (M), Achievability (A), Relevance (R) and Time Bound (T). From this analysis, it can be affirmed that the large majority of the indicators are Specific (S), Measurable (M), Relevant (R) and Time Bound (T). The measurability and specificity of some of the indicators is lower: 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*” which are, however, outcomes characterized by a low level of specificity and measurability.

The PLF also includes a list of project outputs (presented at the bottom of the PLF). All of the project outputs listed correspond to an OVI and a project target. That said, having OVIs, targets and outputs that intrinsically are describing the same project achievement is deemed unnecessary. OVIs and project targets in a PRF should be sufficient.

Overall the TE concluded that the project objectives, project outcomes, project targets and the project’s OVIs were clear.

### 3.1.2 Assumptions and Risks

The project’s Risks and Assumptions as taken up in the project document are presented in the PLF (See Annex II – Revised Project Result Framework).

The delays observed in project implementation and the challenges encountered by the project throughout project implementation, which resulted in significant delays and in certain project targets not being met, were, according to the evaluator, caused by a number of events/barriers/challenges. However, the majority of these (from now on referred to as “risks”) had not been captured in the PLF. If these risks had been captured in the PLF and proper mitigation/management measures would have been thought through for such risks, the project might have been quicker in adapting/re-directing its course and actions.

It appears that the main events, which have jeopardized the project implementation progress and success, and which had not been taken up in the PLF, were the following:

1. **The single largest challenge of the project has been the fact that land-based (by train) trans-boundary movement of PCB oils and PCB containing equipment through certain countries - initially considered to be part of the optimum route (e.g. Russia) – was prohibited.** Ultimately this only left one possibility for an export route (by air) and which made potential export about three (3) times more expensive.
2. **Frequent changes of Government**. This resulted in changes made to Ministries, inspectorates and reporting lines, frequent turn over of high-level staff (ministers, state secretaries, etc.), changes in national priorities and legislations following such changes; halting of legislative approval procedures, lack of project ownership, changing arrangements on the project’s national implementation partners and their roles).
3. **The 2010 Political unrests in Kyrgyzstan**. This delayed the launch of the project.
4. **(Initial) unwillingness of PCB owners to dispose of their out-of-service PCB equipment/waste or phase-out their in-service PCB containing equipment on a voluntary basis**.
5. **Non-materializing of co-financing commitment** (linked to frequent turnover of government)
6. **Frequent turn over of project staff**. Throughout its implementation the project had 4 Project Coordinators (of which one a.i.) and 4 Project Assistance (of which one a.i.). Frequent staff turnover resulted in the loss of institutional and project knowledge and slowed down the project’s implementation rate.
7. **Accession of Kyrgyzstan to the Custom’s Union**, which led to a halt in the approval of regulatory measures.

*Recommendation:* The above-mentioned risks are very specific to the Central Asia region, and similar challenges have been encountered by chemicals-related projects in other Central Asian countries. Therefore, for future POPs/Chemicals projects, it would be important to monitor these types of risks closely and develop and implement mitigation plans if possible.At a minimum such risks should be taken up in the PLF and/or Risk Log.

### 3.1.3 Lessons from other relevant projects incorporated into project design

The Kyrgyzstan PCB management project was the second single country GEF PCB project in Central Asia (after the PCB management project developed for Kazakhstan). However, these projects were developed and started implementation around the same time, therefore the Kyrgyzstan PCB project could not draw from lessons emerging from similar GEF/PCB projects implemented in the country or the Central Asian region.

That said, the project did draw upon experiences and lessons-learned from the following projects/activities:

* **Development of the National Implementation Plan (NIP) on POPs**. Implemented with the support of the GEF and UNEP. The elaboration of the NIP included a preliminary inventory of PCB containing equipment and oils. The NIP identified the overall inventory estimate of transformers and large capacitors and provided a sectoral and regional profile of where this equipment was located. The NIP also provided a review of the legal and regulatory framework governing waste and chemicals management as well as the various institutional responsibilities for it, as well as an assessment of the technical required support capacity such as analytical and monitoring capability, and management infrastructure. That said, the NIP, and in particular the PCB inventory conducted as part of it, contained a number of significant gaps.
* **Obsolete POPs pesticides projects**. A regional project (Kyrgyzstan, Tajikistan, and Uzbekistan) financed by the Canadian POPs Trust Fund through the World Bank, supported an inventory of pesticides in the Jalal-Alab oblast. A second pesticides project, supported by the international NGO “Milleukontakt”, the local NGO “Ekois”, with financing provided by the Dutch Government, facilitated the repacking and temporarily storage of approximately 90 tonnes of obsolete pesticides. Unfortunately, the obsolete pesticides were buried at a site, which changed ownership after Government restructuring. No disposal solution has been identified to date. Because export for POPs waste is not possible these stockpiles would eventually need to be destroyed at national level. In many ways this project dealt with very similar changes as those encountered by the PCB project.
* **Latvia PCB project**. The GEF/UNDP Project “*PCB Stockpiles Management in Latvia*” was completed in 2009. The project supported the State Environmental Service in expanding and updating the national PCB inventory system, and introduced safe PCB management and disposal practices. The project’s initial target was to safely dispose of 280 tons of PCB-containing equipment. The final achievement was more than double that target, with 590 tons of PCB-containing equipment from 112 companies (80 % of the identified PCB equipment in Latvia) safely disposed of as a result of the project[[11]](#footnote-11).

*Observation*: To the extent possible, lessons-learned from other relevant projects had been incorporated in the project design. However, the use of lessons-learned from the Latvia PCB experience as well as other UNDP PCB projects actually proved counterproductive.

Cost estimates during the project’s development were based on best practices from other PCB management projects (e.g. Latvia). However, in such countries PCB owners as well as holders of PCB waste oils had been willing to hand over PCB containing equipment and PCB waste oils to the project or the national project implementing agency, at no cost, and in addition often provided co-financing for the inventory, packing and storage of PCB containing oils and wastes. Furthermore, certain PCB owners provided co-financing in the form of new PCB free equipment to replace in-service PCB equipment. This proved not to be the case in Kyrgyzstan because of its economic situation. Because of this costs incurred by the project are higher than those in countries where holders provide more co-financing.

Secondly, cost estimates were based on the costs for PCB disposal incurred by other PCB projects, which did not prove realistic in the case of Kyrgyzstan. Due to the requirement for air transportation costs in the case of Kyrgyzstan were almost 4.4 and 6.3 times as high as compared to the costs incurred by the Latvia PCB project. As initially the Kyrgyzstan budget was based on experiences from other countries, it ultimately was too costly and not cost-effective to dispose of PCBs abroad.

*Conclusion*: Lessons-learned should only be applied from other projects when these projects have been undertaken in a similar environment (regulatory, financial, capacity, etc.).

### 3.1.4 Planned stakeholder participation

Throughout the project’s formulation stage the project consulted and made use of the skills, experience and knowledge of appropriate government entities, national technical experts previously engaged in chemicals and/or waste related project and activities and NGOs, in particular those that had experience in the area of environmental and chemicals management.

The project document contained a section on “*Stakeholder Analysis*” which listed the roles and responsibilities of various stakeholders having a role in the management of PCBs (a copy of this table has been provided in Annex XII). The project document listed particular stakeholders (e.g. entities) with whom the project had engaged during the PIF/PPG phase, as well as larger groups of project stakeholders, which the project anticipated to engage with during project activities (e.g. PCB holders, NGOs, regional and local government authorities, general public, bi-lateral and international development agencies, etc.).

The project document did not contain a “Stakeholder Involvement Plan”, however the PLF contained an outcome (1 (b)) entirely dedicated to inform stakeholders and the public. The project document also elaborated upon the ways in which it would engage various project stakeholders, through among else, project board meetings, technical consultations, trainings and outreach activities and awareness raising events.

### 3.1.5 Replication approach

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The replication approach as included in the project document during its formulation stage focuses on the fact that considering its small size, the Kyrgyz Republic is predominantly a beneficiary of experiences developed elsewhere. However the approach for replicability as taken up in the project document does highlight certain aspects of the project that could be replicable. These include:

* The adoption of a regional perspective/approach to PCB management, particularly in relation to the development of facilities/technologies for their treatment/disposal and for addressing import/export challenges that might result in non-compliance with the Convention.
* Proactively integrating PCB management into other initiatives such as those related to POPs, hazardous waste management and sound chemicals management through a cooperative rather than a competitive approach between initiatives.
* Assigning responsibilities to stakeholders/entities, which have practical expertise and working level involvement experience in undertaking PCB management activities.

The replicable aspects as proposed in the project document, however, seem to resemble recommendations for future chemicals, PCB/POPs or waste- related initiatives, rather than recommendations/approaches on how to replicate project successes.

*Recommendation*: The replicability approach taken up in the project document could have considered focusing on replicating project success, related to the disposal of PCB stockpiles not included in the 50 tonnes as envisioned by the project, as well as developing and implementing a phase-out plan, and developing/introducing including financial incentives to address the safeguarding and disposal of PCB waste and stockpiles not covered by the project. The replication approach as taken up in the project document was not elaborated sufficiently.

### 3.1.6 UNDP comparative advantage

At the time of the development of the project, GEF funding had been approved for UNDP-supported PCB management activities in 10 countries: Argentina, Brazil, Ghana, Kazakhstan, Latvia, Mexico, Morocco, Slovak Republic and Uruguay. With respect to the management and disposal of PCBs, UNDP had been supporting these countries in:

* Strengthening legal frameworks and improving enforcement capacity pertaining to PCB management by addressing gaps in national PCB management regulations and creating an enabling environment for the environmentally sound management and destruction of PCBs.
* Undertaking additional PCB inventories to identify remaining geographically dispersed PCBs and sensitive sites. For example by identifying small and medium-sized enterprises possessing a portion of the remaining inventory.
* Improving PCB management practices (such as handling, storage, transport, and destruction) by providing technical guidance on management and safe disposal of PCBs and training for government officials, handlers of PCB-containing equipment, and other private sector entities, to ensure the sound management of PCBs throughout their life cycle.
* Ensuring safe disposal of PCBs in collaboration with PCB-containing equipment holders by developing safe domestic disposal facilities, facilitating export of PCB waste to safe disposal facilities abroad, and improving coordination among PCB holders to lower the cost of transport and destruction of PCBs.
* Implementing public awareness campaigns and communication strategies to support all of the above activities.

In Kyrgyzstan in specific, UNDP, its Country Office and Project Management Unit, had been supporting the Government in the implementation of:

* *UNDP’s multi-year Environmental Management Program* that supported the development of an environmental management policy and facilitated/initiated partnership discussions with various stakeholders to built capacity by making available expertise, in the form of national and international experts, in a range of focal areas.
* The UNDP/GEF project ”*Capacity Building for Implementation of Sustainable Waste Management Principles in the Kyrgyz Republic*”, which included the development of a National Strategy for Solid Waste Management, which included a Public Private Partnership angle.
* The initiative “*Assessment of Radioactive Waste Management Capabilities in the Kyrgyz Republic in Trans-boundary Context*” supported with funding provided by UNDP Kyrgyzstan, which led to the drafting of a framework document for the management of radioactive waste in Central Asia and the organization of the International Forum on Uranium Tailings in Central Asia (Geneva).

The evaluators felt that UNDP (Kyrgyzstan) certainly had a comparative advantage to support the Government of Kyrgyzstan in developing and implementing this type of a project.

### 3.1.7 Linkages between the project and other interventions within the sector

Linkages between the project and previously implemented relevant projects have been described in section 3.1.3 “*Lessons from other relevant projects incorporated into project design*”.

The project also worked closely with and contributed to a number of initiatives pertaining to hazardous waste and chemicals management throughout its implementation (*Note*: some of these linkages were described in the project document, while others were not):

* **GEF/UNDP Project “Design and Execution of a Comprehensive PCB Management Plan for Kazakhstan”**. The project started implementation at the same time and in many respects encountered the same challenges as Kyrgyzstan throughout its implementation. Throughout project implementation there was a lot of communication and exchange of lessons-learned between the two projects.

*Project contribution:* It was felt by the evaluator that it was mostly the Kazakhstan project which informed the Kyrgyzstan project on the various disposal routes (7 in total) that it was exploring with support of international hazardous waste transport/disposal companies and the actions it was taking to advance its inventory; collect, repackage and interim storage of collected PCBs; and, develop regulatory measures. It should be mentioned that in Kazakhstan in general PCB holders were more willing to hand over PCB waste (had more financial resources at their disposal), capacity of PCB experts and laboratories was much higher at the start of the project, and because the project had more funding at its disposal (~ 3 million), export of PCBs could somewhat benefit from economies of scale.

* **SAICM QSP TF/UNDP/UNEP Project “Kyrgyzstan, UNDP, and UNEP Partnership Initiative for the Integration of Sound Management of Chemicals Considerations into Development Plans and Processes”**

*Project contribution*: The PCB management project worked very closely with the SAICM project. Jointly, these projects conducted training on PCBs and the Sound Management of Chemicals (SMC), developed Training-of-Trainers modules; and, developed technical regulations (including the establishment of a high level Inter-agency Coordinating Mechanism on the Sound Management of Chemicals).

* **UNDP/GEF project ”Capacity Building for Implementation of Sustainable Waste Management Principles in the Kyrgyz Republic”**

*Project contribution*: The PCB project and the Uranium project worked closely on the development and maintenance of the on-line inventory of radioactive and toxic waste & contaminated sites.

* **UNDP/GEF “National Capacity Self Assessment-2” project**

*Project contribution*: The PCB project and the NCSA project worked jointly on the development and approval of the methodology on the calculation of charge fees for environmental pollution.

* **Carnet Environment and Sustainable Development in Central Asia and Russia**

*Project contribution*: the PCB project worked closely with Carnet on the dissemination of news items and information on the project’s activities.

* **Protect human health and the environment from unintentional releases of POPs and mercury from the unsound disposal of healthcare waste in Kyrgyzstan**

*Project contribution*: The Project Coordinator (PC) for the HCWM project also assumed the role of a.i. Project Coordinator for the PCB project for a duration of 3 months, as the Project Management Costs (PMC) for the PCB project had run out.

*Conclusion:* Because in many respects the Kazakhstan project was advanced as compared to the Kyrgyzstan project, it was felt by the evaluator that sometimes the Kyrgyzstan project would act too responsive (awaiting results from the Kazakhstan project first, before taking action itself), rather than acting in a pro-active manner.

*Conclusion:* It should be noted that the implementation units for most of these projects were located with UNDP’s Programme Management Unit (PMU). Due to their physical proximity and day-to-day personal interactions, these projects have been able to complete each other, avoid duplication, improve communication and saved financial resources, hailed by all project stakeholders and experts as a best practice.

### 3.1.8 Management arrangements

The management arrangements as presented in the project document (“3: Management Arrangements”), had been clearly described and were in line with the UNDP [Programme and Operations Policies and Procedures](https://info.undp.org/global/popp) (POPP) for UNDP NEX (National Execution) projects.

The project was intended to be executed following established UNDP national execution (NEX) procedures, however since its start the project has been implemented using Direct Implementation Modality (DIM) as per UNDP’s Fast Track Procedure established for improving the speed and timeliness for response to crises and other special situations.

UNDP’s Fast Track Procedure was approved for UNDP Kyrgyzstan starting April 4, 2010 – after the 2010 Kyrgyz revolution - and the need for DIM was being evaluated on a yearly basis. Up to the TE the DIM modality for this project had been approved for each of the financial years.

*Good Practice*: Even though the project was not implemented using NEX modality, all the project decisions, such as the signing off on the Annual Work Plans (AWP) were assumed by the Ministry of Energy (senior beneficiary) and major project decisions were approved by the Project Board (PB).

In the project’s PIF and PPG documents, initially the State Agency for Environment Protection and Forestry (SAEPF) had been identified as the project’s executing partner. During the project’s PPG phase however it was decided to change the project’s executing/implementing partners to be the Ministry of Energy and Industry (MoEI) and the State Inspectorate for Energy and Gas (SIEG) considering most potential PCB holders were (in)-directly reporting to the MoEI.

When the project was approved by the GEF and was to be launched, there was some hesitation from the State Agency for Environmental Protection and Forestry (SAEPF) to allow the Ministry of Energy to lead the project. This took time to resolve, and delayed the launch of the project’s start. In retrospect, it could be argued that carving out a more specific role of the SAEPF in the project’s implementation (e.g. on getting the PCB regulatory framework developed and approved), might have helped to smooth and speed up project implementation.

At the time of the project’s launch, the project’s national implementing partners were the Ministry of Energy and Industry (MoEI) and the State Inspectorate for Energy and Gas (SIEG), which at the time was a structure under the MoEI. The Director of SIEG was appointed as the National Project Director. Around the time of the MTE, a new inspectorate was created, the State Inspectorate for Environmental and Technical Safety (SIETS) under the Government of the Kyrgyz Republic and SIEG was officially regrouped under SIETS in May 2012. As a result of this restructuring, a new project director – the State Secretary of the Ministry of Energy and Industry - was appointed mid-2014.

*Lesson-Learned*: One the most significant challenges to the project has been the frequent changes of Government. Not only in terms of changes made to the institutions, but also the resulting frequent turn-over of high-level officials, legal reform processes which followed as a result of these (halting or slow-down of legislative approval procedures)**,** changes in national priorities, lack of project ownership, changing arrangements on the project’s national implementation partners and their roles. Depending on who assumed the PD role at a given time, and his/her commitment to the project, had a direct influence on the commitment of that partner to help advance the project’s implementation.

*Lesson-learned*: The fact that SIEG was regrouped under SIETS (and became the *Energy Safety Department*) also resulted in less project ownership from their end.

In line with POPP and the project document, the Implementing Partner established a Project Board (PB) to give advice and guide project implementation:

* Executive: Assumed by a representative of the SAEPF (chair) and a representative of the Ministry of Energy (co-chair),
* Senior Supplier: Assumed by the UNDP Country Office representing the interests of the parties concerned which provide funding for specific cost-sharing project’s and/or technical expertise to the project;
* Senior Beneficiary: assumed by a representative of the Ministry of Energy representing the interests of those who will ultimately benefit from the project; and
* Project Assurance Role: assumed by the GEF OFP, UNDP CO and UNDP GEF RCU, supporting the Project Board Executive by carrying out objective and independent project oversight and monitoring functions.

Additional PB members were the Ministry of Agriculture, Ministry of Emergency Situations, National Academy of Science, NGOs (EKIOS and Independent Ecological Expertise) and independent experts. It is important to indicate, that in the two PB meetings held to date, the State Inspectorate for Energy and Gas (SIEG) was also represented as a member of the PB (as it assumed the role of national implementing partner along with the MoEI).

The project was managed from a small project management unit, consisting of a national project coordinator and an administrative/finance assistant located within the UNDP Programme Management Unit (PMU). The Project Manager assumed overall responsibility for the implementation of project activities and the achievement of planned project outputs and reports to the National Project Director and to the UNDP Country Office. An administrative/financial assistant who provides administration, management and technical support to the project supports the Project manager as required.

*Observation*: Throughout its implementation the project had four (4) project coordinators and four (4) project assistants, of which the second (2nd) and the fourth (4th) Project Coordinator assumed the P.C. role on an ad interim (a.i.) basis while also managing other UNDP GEF chemicals and waste projects. Although entirely beyond the influence of the project and UNDP, uncertainty, loss of institutional knowledge and frequent changes did impact the speed of project implementation and its success.

## 

## 3.2 Project Implementation

### 3.2.1 Adaptive management (changes to the project design and project outputs during implementation)

Most of the information presented in this section has been extracted from the yearly Project Implementation Reviews (PIRs) as well as the Mid-Term Evaluation (MTE) report.

A few minor and some major modifications were made to the project’s outputs during project implementation. All these changes have been highlighted in Annex XIII: Changes made to the project design and outputs. The major changes made to project OVIs and targets have been summarized in the Table below, along with the reason(s) for such changes.

Table 6: Changes made to the project design and outputs during implementation

|  |  |  |  |
| --- | --- | --- | --- |
| **Original OVI** | **Changed to** | | **Reason for change** |
| **Outcome 2: Development/ and implementation of priority regulatory measures to control the import/export, report, management and ultimate elimination of PCBs.** | | | |
| **Outcome indicator (output) 2.2**:  Adoption of appropriate hazardous waste classification of PCBs and PCB contaminated materials in 2011. | **OVI was removed** | | * Change was made at the time of the project Inception Workshop (January 2011). * The OVI was removed from the PLF considering a hazardous waste classification had already been adopted as part of a UNDP waste management project “*Capacity Building for Implementation of Sustainable Waste Management Principles in the Kyrgyz Republic*” Project. * The classification was approved by a Government Decree. |
| **Outcome indicator (output) 2.3**:  Establishment of MACs for PCBs in environmental media, consistent with international standards in 2012. | **Activity was dropped** | | * Activity was dropped due to the regulatory changes. * Following the establishment of the national regulatory registry and 2013 requirements, all MACs in environmental media will be regulated by the Law on Public health, which at the time of the TE, was under development. |
| **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 indicator (output) 3.1:**  Basic national analytical capacity to analyze for PCBs operational with upgraded equipment installed and trained personnel in place (10 persons) by 2011. | | **Support was extended to two laboratories instead of one** | * Change was proposed during the Project Board Meeting held on 11 December 2013. * Reason for this change was that the Project Board wanted the project to create additional capacity for PCB analysis, so that it would be possible for the laboratories to be able to cross-reference each other. |
| **Outcome 4: Sustainable capacity to capture, package and securely store PCB stockpiles/ wastes and ESM disposal of priority stockpiles in accordance with environmental requirements.** | | | |
| **Outcome indicator (output) 4.4**:  Disposal of 50 MT of PCB stockpiles by export to a qualified disposal facility by 2013. | **Ultimately an open-ended international tender was launched for the transport and disposal of 20, 34 or 50 tonnes of PCB containing equipment/wastes through two export routes (Via Kazakhstan to a disposal facility, or direct export by plane)** | | * Initially, due to the small quantity of PCBs identified at that particular time and the challenges faced in exporting PCBs, the PB meeting of 11 December 2013 decided to remove the disposal component of the project, focus on the PCB storage construction instead and built capacity of an additional laboratory (SAEPF) * At the time it was confirmed that indeed NESK owned 579 PCB capacitors (34 tonnes)[[12]](#footnote-12), the project decided at the PB meeting of June 2014 to launch an international open-ended tender for the export of PCB containing equipment and wastes (the SES laboratory had not yet been able to conduct the analysis of the 52 samples of PCB transformer oil), to i) obtain information on the costs for export/disposal and decide whether the project could accommodate such costs; ii) potentially make use of the opportunity to jointly export PCB waste from Kyrgyzstan with PCB waste from Kazakhstan. An open-ended international tender was launched that requested bids for the disposal of a variety of options for PCB containing equipment and wastes (20, 34 and/or 50 tonnes) as well as variety of export options (place directly to European disposal facility, or by train to Kazakhstan to be exported from there by plane to a European disposal facility). |

To secure PCBs wastes for disposal and communicate discontinuation with PCB owners the Project Board extended the Project twice (2x)[[13]](#footnote-13) as one of the adaptive measures to achieve development objective.

Changes made to the project’s design, were:

* Due to the small quantity of PCBs identified at that particular time and the challenges faced in exporting PCBs, the Project Board meeting of 11 December 2013 decided to remove the disposal component of the project, focus on the PCB storage construction instead and built the capacity of an additional laboratory (the State Agency for Environmental Protection (SAEPF)) through the provision of a gas chromatograph for PCB analysis in oil to function as a reference laboratory for SES. This latter activity was originally not included in the project document. Costs associated with this support were in the range of 98,738.00 US$. At the time of the TE the equipment was unfortunately not yet operational as SEAPF has not yet been able to allocate a proper space for its installation and operation. The evaluator is of the opinion that it would have been prudent to delay the decision to support SAEPF until after the results of the PCB transformer oil analysis (2nd stage of PCB inventory) would have become available.
* Due to the small quantity of PCBs identified (at that time in the project) and the challenges faced in exporting PCBs, the PB meeting of 11 December 2013 decided to remove the disposal component of the project and focus on the PCB storage construction instead. When it was ultimately confirmed that NESK owned 579 PCB capacitors (34 tonnes)[[14]](#footnote-14), the project decided at the PB meeting of June 2014 to launch an international tender for the export of PCB capacitors and PCB containing wastes[[15]](#footnote-15) (the SES laboratory had not yet been able to complete the analysis of the 52 samples of PCB transformer oil), to i) obtain information on the costs for export/disposal and decide whether the project could accommodate such costs; ii) potentially make use of the opportunity to jointly export PCB waste from Kyrgyzstan with PCB waste from Kazakhstan. Unfortunately even the lowest cost estimate (451,500 USD for export via Kazakhstan) proved too high to be covered by remaining project funds.

### 3.2.2 Partnership arrangements (with relevant stakeholders involved in the country/region)

Throughout the TE it was obvious that the project during its implementation had been able to reach out and engage a very significant numbers of stakeholders (see also section 3.1.4).

The main stakeholders with whom the project entered into partnerships, along with their respective responsibilities/roles in the project’s execution, have been described in more detail in Annex III. Below is provided a short summary of the main project partners:

* National Government entities: Ministry of Energy and Industry; State Inspection on Environmental and Technical Safety (SIETS) (Formerly SIEG - State Inspection for Energy and Gas and before that State Electricity and Natural Gas Inspectorate); State Agency for Environment Protection and Forestry (SAEPF); Ministry of Emergency Situations; Ministry of Health; Ministry of Agriculture; Ministry of Labor and Social Protection; Ministry of Transport and Communications; Ministry of Interior; Ministry of Justice; State Customs Inspectorate
* Electrical equipment holders that participated in the first phase of the inventory (~ 255)
* Electrical Equipment holders that participated in the second phase of the inventory: OJSC National Electric Network of Kyrgyzstan (NESK);
* Holders willing to hand-over and dispose of PCB capacitors: OJSC National Electric Network of Kyrgyzstan (NESK).
* International Partners: PolyEco; ReСeTox, Czech Republic.
* Commercial and Government laboratories: Laboratory of the State Sanitary and Epidemiological Control Department under the Ministry of Healthcare; Laboratory of the State Agency for Environmental Protection and Forestry
* NGOs: Ekois; Independent Ecological Expertise.

The project reached out to over 255 holders of oil containing electrical equipment, and was able to train, create awareness and build capacity on PCB management of more than 560 workshop and training participants (see Table 13).

In summary, the evaluators are of the opinion that the involvement of the large number of project stakeholders and individuals involved in aspects of PCB and electrical equipment management, who benefitted from awareness raising and capacity building, is quite significant and is to the credit of the project management team and the government entities (national, regional and local).

### 3.2.3 Feedback from M&E activities used for adaptive management

Project Implementation Reviews (PIRs)

The TE team received all the project’s PIRs (2011, 2012, 2013 and 2014). Sections on adaptive management or as they were called in earlier PIRs “adjustments to key project milestones and project strategy” had been duly filled out.

Of the changes proposed by the MTE, and the activities the project had implemented in response of these recommendations had been reflected in the 2014 PIR.

The conclusion that can be drawn from the review of the 2011, 2012, 2013 and 2014 PIRs is that the quality of the PIRs appears to be good.

Since 2012, UNDP reviews the quality of PIR report before submitting them to the GEF. The quality of the 2012 PIR was rated “**Satisfactory**”, which the quality of the 2013 PIR was rated “**Marginally Satisfactory.**” The PIR evaluator made the following observations “*Not enough comments to justify ratings are provided in the DO section. Also noted the rather complex monitoring framework (35 indicators - too many?)*”

Mid-Term Evaluation

The MTE made a number of recommendations, which are presented in the Table below. The project’s adaptive management in response to their recommendations has also been summarized. In general it can be concluded that most of the MTE’s recommendations were accepted, and the project implemented adequate measures and activities to redirect the project accordingly.

Table 7: MTE Recommendations and Project Response

|  |  |  |
| --- | --- | --- |
| **MTE Recommendations** | **Accepted** | **Project Response/Action:** |
| **#1 Request extension explore solutions for PMC costs:** Request a project extension and explore financial solutions for covering PMC costs for the duration of project extension. | *Yes* | * Following the outcomes of the MTE, the project requested twice (2x) a project extension. One in 2014 for 6 months and one in 2015 for 6 months. * As a result of the extensions the project was bound to run out of Project Management Costs (PMCs). In line with a UNDP wide approach to provide joint project support functions and to save PMC costs, a chemicals portfolio coordinator was appointed who supported the implementation of both the PCB and the HCWM project (In the period 1 May, 2015 until 30 June, 2015, 50% of the coordinator costs were charged against the PCB project budget). UNDP oversight was provided by the PMU EE Dimension Chief, free of charge. * A similar approach was used for the joint Project Assistant, since January 2015, 50% of her salary was charged to the PCB project. |
| **#2 Exit Strategy:** Adjust the Project Logical Framework (PLF) re-focusing on realistic goals and targets that can be achieved within the remaining timeframe of the project, however aiming to collect as much PCB containing equipment and oils for ultimate disposal as feasible with project funding. | *No* | * As the inventory results had not yet confirmed the tonnage of high content PCB wastes, the project and project board decided to await the inventory’s outcomes before reducing the target. * Eventually the project board decided to launch an open-ended international tender[[16]](#footnote-16)forthe disposal of PCB containing equipment and wastes as time was running out and the inventory had not yet concluded whether additional high content PCB wastes were present. * For additional details please refer to Table 6. |
| **#3 Improve key project stakeholder engagement.** | *Yes* | * The UNDP Senior Management Team (consisting of the Resident Representative and the Deputy Resident Representative Programme) met with the State Secretary of the Ministry of Energy and Industry, who committed during that meeting to more engagement and ownership from the ministry’s side. Since then a significant increase in the engagement of the MoEI has been observed. * The number of project board meetings, which were held during a project implementation year significantly increased after the MTE and particularly in the last project year[[17]](#footnote-17). Leading to better stakeholder engagement. * Regular weekly meetings with the Ministry of Energy and Industry (national implementing partner) substantially increased the capacity of the ministerial staff to adequately handle institutional and regulatory issues related to the sound management of PCBs in the country. * A government staff was designated to work on PCBs issue who currently coordinates PCBs related matters with a broader audience including other ministries, and donors. |
| **#4 Develop/apply an improved communications strategy:** Develop/apply a communications strategy that is specifically tailored to project partner’s needs and the ways in which they prefer to be informed of project results and progress. | *Yes* | * The number of project board meetings which were held during a project implementation year significantly increased14. Leading to better stakeholder engagement. * More frequent meetings were held with the MoEI, almost on a weekly basis, since the middle of 2014. This change came about after a meeting between the senior management of the CO and the Minister of the MoEI, who subsequently appointed the State Secretary of the MoEI to ensure monitoring of project progress. |
| **#5 Long-term financing for PCB phase-out:** Improve national in-sight in long-term financing for PCB management and phase-out. | *No* | * Note: Although this recommendation was accepted, the project and its partners did not succeed in establishing long-term financial mechanisms that would support/encourage the phase-out and disposal of PCB containing equipment by its holders. |
| **#6 Ensure project buy-in from high-level decision makers.** | *Yes* | * The UNDP Senior Management Team (consisting of the Resident Representative and the Deputy Resident Representative Programme) met with the State Secretary of the Ministry of Energy and Industry, who committed during that meeting to more engagement and ownership from the ministry’s side. Since then a significant increase in the engagement of the MoEI has been observed. |
| **#7 Re-launch co-financing discussions and ensure that earlier commitments made are met.** | *Partially* | * The project re-launched co-financing discussions, in particular with the MoEI following the meeting between UNDP Senior Management and the State Secretary. * During the second half of the project, the MoEI proved much more eager to find a solution to meet their initial co-financing contributions (provision/allocation of a temporary storage site/facility for the storage of PCB waste). Unfortunately eventually, even though such a site was identified, the establishment/construction of a storage site did not materialize. |
| **#8 Mainstream PCB related work into day-to-day tasks and responsibilities.** | *Partially* | * In the case of one of the main project partners (SIETS) engagement in day-to-day PCB related work actually decreased during the second half of the project. This was mainly a result of the fact that order #1 (03.01.2012), which allowed for inspection checks on PCB equipment, was cancelled when SIEG became a component of SIETS. That said, SIETS remained to actively support the second phase of the PCB inventory. * Technical regulations on PCB management have not yet been approved by the Government, however MoEI issued a Ministerial order for implementation of these rules on a voluntary basis. In the meantime, NESK (the largest PCB holder in the country) has already internally approved these rules and trained 350 of their personnel on the implementation of these rules. As such, PCB management is becoming part and parcel of day-to-day work. |
| **#9 Leverage additional co-financing.** As also highlighted in the 2012 PIR, the project should explore bi-lateral funding possibilities, in order to leverage additional co-financing. | *Partially* | Even though this recommendation was accepted and the project actively engaged in efforts to leverage additional co-financing resources, eventually it did not manage to do so. For example the project tried to engage with the Asian Development Bank (ADB) through its *Development of the Energy Sector in Kyrgyz Republic programme*, to use co-financing to partially cover costs related to the establishment of an interim storage facility. Ultimately the ADB was no longer interested in the safeguarding of PCB wastes. |

### 3.2.4 Project Finance

In this section, two aspects related to project finance are reviewed, firstly project co-financing and secondly project expenditures.

Co-financing

In the Table below is summarized the co-financing that was anticipated when the project was submitted for GEF for approval, as well as the co-financing that was actually mobilized during the project’s duration.

It should be noted that the description on co-financing contributions, although taken up in the project document (page 36), are not very clear on how much co-financing each individual entity was expected to provide, as contributors were grouped as “government” or “NGO”. The project document indicates a government contribution of 900,000 US$ (270,000 cash and 630,000 in-kind); a total UNDP contribution of 135,000 US$ (115,000 cash and 20,000 in-kind) and an NGO contribution of 16,000. Thus, a total co-financing contribution of 1,051,000 US$.

The original co-financing letters however provided more details. A summary has been provided in the Table below.

Table 8: Planned / Actual Co-financing raised over the duration of the project

|  |  |  |  |
| --- | --- | --- | --- |
| Partner | Initially pledged (US$) | At time of MTE (2012) | At time of TE (2015) |
| Ministry of Energy and Industry (MoEI) | 450,000[[18]](#footnote-18) | 20,000 | 40,000 |
| UNDP | 100,000[[19]](#footnote-19) | 75,000[[20]](#footnote-20) | 115,000[[21]](#footnote-21) |
| Ministry of Health | 300,000 | 200,000 | 250,000 |
| NGO | 16,000[[22]](#footnote-22) | - | - |
| State Inspectorate on Energy and Gas (SIETS) | 50,000[[23]](#footnote-23) | - | 50,000 |
| Capacity building for implementation of sustainable waste management principles in the Kyrgyz Republic (UNDP Project) | 35,000[[24]](#footnote-24) | - | 35,000 |
| Municipality | 0 | 100,000 | 100,000[[25]](#footnote-25) |
| Czech Trust Fund | 0 | 50,000 | 50,000 |
| NCSA-2 | 0 | 20,000 | 20,000 |
| SAICM QSP TF | 0 | 12,000 | 90,000 |
| SAEPF | 100,000 | 10,000 | 10,000[[26]](#footnote-26) |
| Private Sector | - | 5,000 | 5,000 |
| Carnet website | 0 | 4,000 | 8,000 |
| PCB Kazakhstan | 0 | 2,000 | 2,000 |
| Uranium Project | 0 | 2,000 | 2,000 |
| GEF/UNDP Healthcare Waste Management Project | 0 | 0 | 2,000[[27]](#footnote-27) |
| Total (US$) | **1,051,000** | **500,000** | **779,000** |

(\*) Source: Project Document and UNDP-PIRs (2011, 2012, 2013 and 2014) plus updates from the Project Management Team

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$ which was the co-financing amount indicated in the project document.

This difference can be mostly adhered to the fact that the co-financing from MoEI (to be contributed in the form of land allocation for the construction of an interim PCB waste storage facility) 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 (2) locations for temporary safeguarding. However after Government restructuring, which resulted in the Ministry of Energy and Industry changing into the Ministry of Energy, 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 and slowed down the project’s implementation, considering alternatives have to be explored (e.g. through identification of storage sites through partnerships with local municipalities). After recommendations resulting from the MTE, the project reinitiated discussions with the MoEI, through involvement of the State Secretary and UNDP’s Senior Management team. As a result the Ministry renewed its commitment to support the project in identifying a temporary storage location. However due to time restraints (EIAs to be undertaken and government approval to be obtained), the storage site had not yet been allocated to the project at the time of the TE.

Another co-financing contribution, which did not materialize (in time) and jeopardized project success, was the delayed refurbishment of a laboratory room in which the Gas Chromatograph (GC) donated by the project to SAEPF, would be installed. At the time of the TE, this room was not yet finished, and 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. At the time of the TE, the project had been successful in leveraging an additional estimated 304,000 US$. These resources were mobilized 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. The project also worked closely with the Kazakhstan GEF funded PCB management project to find joint PCB disposal solutions; with the SAICM QSP TF funded UNDP/UNEP Partnership Initiative on Mainstreaming of Sound Management of Chemicals SMC priorities on conducting SMC/PCB training, development of Training-of-Trainers modules, development of technical regulations (including the recent establishment of a high level ICM on SMC); with the UNDP Uranium project on the development and maintenance of the on-line inventory of radioactive and toxic waste and contaminated sites; with the National Capacity Self Assessment-2 project on the development and approval of the methodology on calculation of charge fees for environmental pollution; with Carnet Environment and Sustainable Development in Central Asia and Russia on information dissemination; and, with the UNDP/GEF project “Protect human health and the environment from unintentional releases of POPs and mercury from the unsound disposal of healthcare waste in Kyrgyzstan” by sharing its Project Coordinator for 2 months and therefore not having to charge PMC related costs.

It should also be mentioned that the OJSC National Electric Network of Kyrgyzstan (NESK) was willing to phase-out and hand-over its PCB containing capacitors (579 in total weighing a total of 34 tonnes) for disposal abroad, which would have amounted to an additional co-financing contribution of 873,000 US$. NESK provided an official letter stating their willingness for phase-out and disposal.

*Recommendation:* In particular whenco-financing contributions represent a critical part of the project – as was the case for the allocation of storage sites for this particular project – and to ensure that the project would not become “stuck” when those co-financing contributions do not materialize, it would be recommended that in the future critical co-financing contributions are materialized prior to the project’s implementation start (e.g. identify/allocate a storage site/location prior to the project’s launch).

*Recommendation*: In retrospect, the evaluators wondered why the project had not asked its national partners for additional cash co-financing contributions, when it became clear that the project had insufficient funds available for disposal.

*Observation/Recommendation:*The fact that no co-financing contributions had been made by PCB holders prior to the project’s start, which is common practice for PCB projects in other countries (indicating in an official letter that they would be willing to phase-out/replace and hand-over free of costs to the project, PCB equipment and waste for disposal), should have warned the project’s developers and project team that getting PCB holders to buy into the project and support disposal activities would have been challenging. If ever a second phase PCB project would be developed, it would be highly recommended that co-financing letters from the main PCB holders would be obtained, to ensure that sufficient PCB waste can be collected/disposed by the project. In particular in light of the fact that the official co-financing ratio of GEF financing is nowadays 1:6 while for Chemicals and Waste projects a ratio of minimum 1:4 would be expected.

*Recommendation:* Ensure, through a UNDP SM meeting with the GEF OFP and SAEPF, that they will do their utmost to refurbish the laboratory room and prepare it for installation of the GC. In particular in light of the fact that SAEPF requested this equipment but is not in a position to use it.

Project Expenditures

Based on the Combined Delivery Reports (CDRs) provided by UNDP Kyrgyzstan for the years 2010, 2011, 2012, 2013, 2014 and 2015[[28]](#footnote-28), a summary of project expenditures by year up to the time of the TE can be found in the Table below.

Table 9: Project Expenditures for the period 2010 – 2015 (up to 13 July 2015)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **2010** | **2011** | **2012** | **2013** | **2014** | **2015** | **Total** | **GEF Planned** |
| **Outcome 1 (Awareness Raising)** | | | | | | | | |
| TRAC |  | 4,509 | 15,568 |  |  |  | 20,076 |  |
| GEF | 4,496 | 65,482 | 55,646 | 2,332 | 7,785 | 224 | 135,964 | 125,000 |
| **Subtotal Outcome 1** | **4,496** | **69,990** | **71,214** | **2,332** | **7,785** | **224** | **156,040** |  |
| **Outcome 2 (Legislative and Regulatory Measures)** | | | | | | | | |
| TRAC | 398 | 20,969 | 3,995 |  |  |  | 25,362 |  |
| GEF | 8,181 | 37,610 | 12,441 | 2,437 | 1,073 | 3,012 | 64,754 | 50,000 |
| **Subtotal Outcome 2** | **8,579** | **58,579** | **16,436** | **2,437** | **1,073** | **3,012** | **90,116** |  |
| **Outcome 3 (Technical Capacity Development)** | | | | | | | | |
| TRAC |  | 8,269 | 6,000 |  |  |  | 14,269 |  |
| GEF | 400 | 54,025 | 154,906 |  | 1,548 | 104,116 | 314,995 | 260,000 |
| **Subtotal Outcome 3** | **400** | **62,294** | **160,906** | **0** | **1,548** | **104,116** | **329,264** |  |
| **Outcome 4 (Stockpiles and Wastes Securing)** | | | | | | | | |
| GEF |  | 27,146 | 20,905 | 46,555 | 50,079 |  | 144,685 | 400,000 |
| **Subtotal Outcome 4** | **0** | **27,146** | **20,905** | **46,555** | **50,079** | **0** | **144,685** |  |
| **Outcome 5 (Adaptive Feedback & Evaluation)** | | | | | | | | |
| GEF | 731 | 1,009 | 14,074 | 339 |  |  | 16,152 | 20,000 |
| **Subtotal Outcome 5** | **731** | **1,009** | **14,074** | **339** | **0** | **0** | **16,152** |  |
| **Project Management Costs** | | | | | | | | |
| TRAC | 8,370 | 1,043 | 5,561 |  |  |  | 14,973 |  |
| GEF | 17,663 | 41,673 | 19,813 | 1,048 | 2,400 |  | 82,597 | 95,000 |
| **Subtotal Outcome PMC** | **26,033** | **42,716** | **25,373** | **1,048** | **2,400** | **0** | **97,570** |  |
| **Total UNDP TRAC** | **8,768** | **34,790** | **31,123** | **0** | **0** | **0** | **74,681** |  |
| **Total GEF** | **31,470** | **226,944** | **277,785** | **52,710** | **62,885** | **107,352** | **759,146** | **950,000** |
| **Total** | **40,238** | **261,734** | **308,907** | **52,710** | **62,885** | **107,352** | **833,827** |  |
| Delivery cumulative (%) | 0.04 | 0.29 | 0.60 | 0.65 | 0.71 | 0.81 | 0.81 |  |

It should be noted that of the total project amount of 1,042,681 US$ (of which GEF: 950,000 US$ + UNDP TRAC: 74,680.76 US$), 190,854.06 US$ was unspent at the time the TE evaluation took place.

UNDP and the project’s national partners, expect to return ~ 160,000 US$ to the GEF[[29]](#footnote-29), when the project has been operationally and financially closed. The evaluator feels that this was a wise decision to take by the Project Board, as it was obvious that further prolongation of the project and spending of donor funds, would not bring the project closer to achieving its targets, in particular targets related to PCB disposal.

Another observation that should be made is that the project claimed very little PMC costs and no PMC costs in 2014 and 2015 respectively. Instead, the project ensured synergies with the UNDP/GEF Healthcare Waste Management project and shared its Project Coordinator and a Project Assistant, while 50% of associated costs was charged against the PCB project.

It should also be noted that the project spent 98,738.00 US$ for the procurement of a Gas Chromatograph analyzer intended for the laboratory of SAEPF. This activity was not foreseen by the project and a decision on its procurement was taken during the project board meeting of September 2013.

*Conclusion*: In retrospect, the evaluator is of the opinion, that the purchase of the Gas Chromatograph for SAEPF should either have been postponed until later in the project or not taken place at all. One of the reasons for this is that this type of support to SAEPF was initially not foreseen as part of the project. Secondly at the time of the TE, the equipment was not installed/functional and the capacity of SAEPF was too low to undertake quality PCB analysis. It was obvious that the laboratory of the SAEPF was not ready for the equipment’s receipt and operation. Finally, even though it is well understood that the project agreed to drop the disposal component from the project in December 2013, at which time it was decided to focus on PCB storage and support to SAEPF, the evaluator feels it would have been more sensible to wait with allocating substantial funds to SAEPF, to allow for funds to remain available, either for upcoming expenses related to storage (or even disposal) or return to the donor.

### 3.2.5 Monitoring and evaluation: design at entry and implementation **(S)**

The TE evaluator felt that the Monitoring and Evaluation plan as described and included in the Project Document (See *PART IV: Monitoring Framework and Evaluation*) was comprehensive and in line with the UNDP rules and procedures for Monitoring and Evaluation of (GEF) projects.

The Table below summarizes the M&E activities as planned for in the project document and conducted throughout the project’s implementation.

The column “*Comments & Observations*” summarizes the views of the TE team for each of these M & E activities. In summary the TE team is of the opinion that the M & E of the project, both at project design phase and during implementation, can be rated as **Satisfactory (S)**.

Table 10: Project Monitoring and Evaluation Tools

|  |  |  |
| --- | --- | --- |
| Type of M & E Activity | Responsible Parties | TE Comments and Observations |
| Inception Workshop | Project Team | Satisfactory (S) |
| Inception Report | Project Team | Satisfactory (S) |
| Measurement of Means of Verification for project purpose indicators | Project Manager who oversaw specific studies | Satisfactory (S) |
| Measurement of Means of Verification for Project Progress and Performance | Project Manager, Project Team and Project Steering Board | Satisfactory (S) |
| Project Implementation Review (PIR) and ARR | Project Team, UNDP CO, UNDP GEF | **APR**: Annual Progress Reports (APRs) were discontinued for GEF projects in Kyrgyzstan and replaced by the PIR. Only an APR is available for 2011.  **PIR**: Marginally Satisfactory (S)  Since 2012, UNDP reviews the quality of PIR report before submitting them to the GEF. The quality of the 2012 PIR was rated as “**Satisfactory**”, while the quality of the 2013 PIR was rated “**Marginally Satisfactory**” And the evaluation made the following observations “Not enough comments to justify ratings are provided in the DO section. Also noted the rather complex monitoring framework (35 indicators - too many?)” |
| Quarterly Progress Reports | Project Team | Quarterly Progress Reports (QPRs) are available up to Quarter I of 2012. The use of QPRs was discontinued after Q1 of 2012. |
| CDRs | Project Manager | Satisfactory (S) |
| Issues Log | Project Manager, UNDP CO, Programme Staff | Satisfactory (S) |
| Risks Log | Project Manager, UNDP CO, Programme Staff | Satisfactory (S) |
| Lessons-Learned Log | Project Team | Marginally Unsatisfactory (MU). As previously mentioned, it will be important for the project to capture the lessons-learned from the project, which so far has not yet been done. |
| Mid-Term Evaluation | Project Team, UNDP CO, UNDP-GEF Regional Coordinating Unit, External Consultants (evaluation team), National Executing Agency | Satisfactory (S) |
| Final Evaluation, including lessons-learned | Project Team, Independent Evaluators, UNDP Country Office, UNDP-GEF Headquarter and Regional Coordinating Unit, National Executing Agency. | Not yet applicable |
| Terminal Report | Project Team, UNDP CO | Not yet applicable |
| Audit | Independent Audit Entity | No audits have taken place, because in none of the project years, the project’s expenditures surpassed 300,000 US$. |
| Visits to field sites | UNDP CO, UNDP GEF Regional Coordinating Unit (as appropriate), Government representatives. | Satisfactory (S). |

Based on observations made following the TE mission as well as a desk review of M&E related reports, the TE team has only a few minor remarks and suggestions for future improvements:

*Recommendation: Prepare a results and lessons-learned report*. The Kyrgyzstan PCB management project has encountered and overcome many project implementation challenges which are also faced by other land-locked and Central Asian countries that intend to dispose of hazardous and POPs wastes. It is therefore very important that project results, lessons-learned and recommendations would be captured in a high-quality end-of-project report before the project is operationally and financially closed.

*Recommendation: Facilitate future access to guidelines, technical documentation and information materials.*At the time of the TE it seemed that most of this information was available within the project management’s unit. However the evaluators felt that when the project comes to an end, it is likely that useful information materials, such as technical documentation, guidelines, methodologies and the like, as well as visual materials (photos/videos, etc.) prepared by the project, would not continue to be easily accessible to project stakeholders.

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### 3.2.6 UNDP and Implementing Partner implementation / execution **(MS)**, coordination, and operational issues

The project was executed following established UNDP Direct Implementation Modality (DIM). UNDP was the project’s Implementing Agency while initially (until May 2012) the former State Inspectorate on Energy and Gas (SIEG) under the Ministry of Energy of the Kyrgyz Republic was the project’s implementing partner. Around the time of the MTE, a new inspectorate was created, the State Inspectorate for Environmental and Technical Safety (SIETS) under the Government of the Kyrgyz Republic and SIEG was officially regrouped under SIETS (and became the Energy Safety Department). The Project Director position, initially assumed by the Director in SIEG, was after the reorganization assumed by the MoEI Deputy Minister (until the end of 2014) and subsequently by the MoEI State-Secretary.

The evaluator is of the opinion that because the project was being implemented using the Direct Implementation Modality (DIM), which was the mandatory implementation modality for UNDP after the 2010 revolution, many partners regarded the project as a UNDP project, not as a MoEI (after the MTE) or SIEG project (before the MTE). As a result their commitment/project ownership might have been less as compared to when they would have implemented the project themselves. Even though this was outside of the control of the project, it tried to counter this effect by ensuring that all major project decisions, such as the signing off of the Annual Work Plans (AWP) were assumed by MoEI and major project decisions were being approved by the Project Board.

The project was managed from a small Project Management Unit (PMU), consisting of a national project coordinator and an administrative/finance assistant located within the UNDP Programme Management Unit (PMU). The Project Manager assumed overall responsibility for the implementation of project activities and the achievement of planned project outputs and reports to the Project Director and to the UNDP Country Office. An administrative/financial assistant who provides administration, management and technical support to the project supports the Project manager as required.

Throughout its implementation the project had four (4) project coordinators and four (4) project assistants, of which the second (2nd) and the fourth (4th) Project Coordinator assumed the P.C. role on an ad interim (a.i.) basis while also managing another UNDP GEF chemicals and waste project (in the first case a SAICM QSP TF financed project and in the second case a GEF/POPs financed Healthcare Waste Management project). Although beyond the influence of the project and UNDP, loss of institutional knowledge and frequent changes did impact the speed of project implementation and its success.

The fact that sometimes the PC and PA was shared between projects, was positive from a PMC perspective (reduced costs for PM which was necessary as the project had been extended for a year and was running out of the PMC budget) and positive from a synergies perspective as it improved coordination and exchange of experiences between chemicals and waste related projects. However it also meant that the attention of the PC and PA were not exclusively focused on the implementation of the PCB project, which encountered many challenges, and would have befitted from constant attention. However, towards the end of the project’s implementation involvement of the EE Dimension Chief of the PMU was able to partially compensate for this.

What should be noted, is that the project hired over the course of its duration 68 people and companies to undertake assessments, provide training, conduct awareness raising, etc. etc. Essentially these 68 contracts were used to implement the various project activities. This means that the PMU had to prepare 68 TORs and conduct 68 procurement processes for requirement of personnel/experts or procurement of services, etc. This translates to more than 1 such process each month. This is simply too much. This is an incredible amount of work (not even counting the time the UNDP CO would spent on clearing all these processes). It is felt that maybe a lot of valuable time of the PC and PA was spent on facilitating and enabling procurement and recruitment processes, rather than supporting the actual implementation of the project, possibly some of the assignments could have been undertaken by the PC if he/she would have had the time to do so.

*Recommendation*: For future projects is it recommended that responsibilities are 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 rather than a short time and could result in more loyalty and time commitment. It would also free up the time of the PC and allow him/her to technically support the project rather than continuously being tied up in operational procedures.

During the MTE it was remarked by several partners that coordination and information sharing between project partners could be improved, and the MTE 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. Furthermore, the UNDP senior management met with the Minister of MoEI, who in turn appointed the Ministry’s State Secretary as Project Director, which greatly improved coordination and resulted in frequent meetings between the PMU and MoEI.

The absorption of SIEG into SIETS resulted in order #1 related to PCB inspections, being cancelled and SIEG/SIETS no longer hosting the Project Director. Furthermore, during the interviews carried out during the TE, it became apparent that the Energy Safety Department of SIETS was not fully aware of the objectives of the project and the role SIETS and its Energy Safety Department had to play in the management of PCBs (considering the PCB management regulations have not been adopted and order #1 was cancelled after 2012 – based on laws and regulations in place, SIETS does not have to pay particular attention to PCB containing equipment nor to inspect it). The commitment to PCB management within SIETS appeared to have been significantly reduced as compared to when the MTE was conducted.

The Ministry of Energy and Industry underwent many changes and reorganizations throughout the project’s implementation. These changes/reorganizations did impact the involvement of (high-level) MoEI staff in the project; resulted in the approval process of regulations being stalled; severely impacted co-financing commitments initially made by the MoEI (see section 3.2.4 for more details); and impacted the project’s ownership, depending on who assumed at a given time the role of Project Director. These changes are beyond the influence of the project, but because of these frequent changes, the project lost a lot of time in rekindling rapports with high officials, informing and engaging newly appointed staff and so on. Towards the end of the project (2014 - 2015) a significant increase in the ownership and commitment of the MoEI was noticed. As previously mentioned the UNDP CO met with the MoEI Minister who in turn appointed the MoEI State Secretary as the Project Director. Because of the Minister’s commitment and the commitment of the State Secretary, a clear change in ownership was observed during the TE, which explains why project activities started to speed up during the final year of the project.

**Major delays**: The project’s major delays appear to have been the result of a 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, but even when the TE took place inventory results were not entirely clear. Reasons for which the inventory took very long include the political unrests (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, and the significant time it took to convince large equipment holders to partake in detailed studies of their equipment and to accept inventory results. Reasons for the reluctance on the part of holders included that no legislation was in place which made an inventory compulsory; many PCB holders found themselves in a precarious financial situation and did not have the financial means to phase-out PCB containing equipment; many holders thought they did not have PCB containing equipment and if they had such equipment the problem was not significant enough to warrant the investments for their phase-out. Because the inventory phase had taken so long this inevitably prolonged the project, which had to be extended twice, and in turn resulted in financial consequences. Because the results of the inventory became available so late, this also negatively impacted disposal and storage related activities, and made decision-making hard, slow and late.

The other aspect, which severely impacted the project’s implementation, was the unavailability of export routes. Although this is entirely beyond the influence of the project, it was felt by the evaluation team that the project, in particular the PMU and the national implementing partner, should have been more proactive. It felt at times that the project was relying too much on the outcomes and approaches taken by the Kazakhstan PCB project and as a result became very reactive rather than proactive.

In conclusion, the evaluator felt that there were quite a number of implementation challenges throughout the project’s duration, which were related to UNDP and Implementing Partner implementation, execution, coordination and operational issues. For this reason project execution is rated as “**Marginally Satisfactory (MS).**” The main reasons for providing this rating is the responsive rather than the proactive attitude of the project, the heavy focus on operational procedures rather than focusing on the real issues at hand; the low ownership and commitment of project partners (especially before the MTE); low level of coordination and information sharing between project partners (in particular before the MTE) and finally allowing project activities to take too long.

## Project Results

Project Achievements

In the Table below, the project results and achievements have been mapped against the OVIs and project targets as taken up in the Project’s Logical Framework at it was approved after the Project’s Inception Workshop (For the original version of the PLF, kindly refer to Annex I – Annex A). The project results/achievements at the time of the TE have been extracted from the project’s PIRs and have been verified and updated following interviews and meetings held during the TE’s mission. Additional information has been extracted from project related documentation provided by the project team (see Annex V).

The Table below provides an overview of the project results in bullet points, while following the Table below, a narrative on the project’s results provides additional insight and details on how and in which manner project results have been achieved. The narrative also explains why a certain rating has been provided for each project outcomes (see the last column in the Table below).

Table 11: Project Achievements by project outcome

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **OBJECTIVE** | **OBJECTIVELY VERIFIABLE INDICATORS (OVIs)** | **TARGET** | **STATUS OF DELIVERY AT TERMINAL EVALUATION** | **RATINGS** |
| **Objective**: Minimizing environmental and health risks associated with PCBs though strengthening technical and regulatory capacity for the environmentally sound management and disposal of PCBs in Kyrgyzstan | Established and sustainable operational and regulatory capacity undertaking identification and management of PCBs in compliance with Stockholm Convention obligations by 2011 | * Functional regulatory regime covering import/export, identification, capture and securing PCBs for future disposal. * Operation capacity for ESM of current and future stockpiles and waste. * Informed PCB holders and qualified service providers to undertake PCB management activities. * Clear assignment of responsibilities within the government. | * Technical regulations "*On electrical equipment*" and "*On secure maintenance of the electrical equipment and devices*" drafted (pending Government approval). * “Rules of management, handling and disposal of the PCBs containing materials, equipment and devices to regulate identification, collection and handling PCBs” developed. * “Rules on registration, exploitation and storage of equipment, materials and waste containing PCB” adopted by Order of Ministry of Energy and Industry No. 138 from 28 August, 2014 * Amendments made to “on production and consumption of wastes” to include PCB (pending government approval). * Amendment to “On sanitary – epidemiological control" adopted by Governmental Decree (No. 329 from 6 June, 2013), which regulates export, import and transit of POPs including PCBs; holders of wastes including PCBs and other POPs are obligated to keep the stockpiles at the places of production until further options are identified. * Amendments made to ““Collection of charges for improper PCB handling and preservation” for payment for pollution of the environment by PCBs. Adopted by Governmental Decree No. 559 on 19 September, 2011. * Amendments made to Governmental Decree “*On approval of classification of hazardous wastes and methodical recommendations on hazardous class definition*” dating from 15 January 2010 No. 9 to ensure that re-use of PCB equipment is prohibited. Adopted by Government Decree No. 877 on 31 December, 2012. * The Interagency Coordination Committee, established by the Governmental Decree #335 R, June 13, 2013, held its first session on April 10, 2014, during which the issues of PCBs and other POPs proper labeling and classification were discussed. * Technical instruction on “*Inspections of Entities handling PCB Equipment*” adopted by an internal Order (Order #1, January 2012) of the State Agency for Environment Protection and Forestry. * The Ministry of Energy allocated a land plot (June 4, 2014) near Manas airport (Manas village). The land plot is categorized as a protective zone for radioactive tailings. Preparatory works including design blue prints, cost estimates and construction permits have been initiated by the Project. SAEPF has requested an EIA to be conducted first. * PCB Inventory work (documentation review and laboratory analysis) to identify PCBs stockpiles, equipment and materials concluded which reached out to 250 officially registered industries and enterprises in the energy sector and industry. 58.5 tonnes of potentially contaminated PCB oil and equipment were identified. After SES laboratory analysis 34 tons were identified as PCB containing (> 256 ppm), consisting of capacitors. * The project trained (directly and through Training of Trainers) approximately ~ 1,000 people, and through the inventory reached out to 250 enterprises in the energy and industry sector. * Regular weekly meetings with the Ministry of Energy and Industry - national implementing partner - substantially increased capacity of the ministerial staff to adequately handle institutional and regulatory issues of PCBs sound management in the country. * One (1) staff was designated to work on PCBs issues and coordinates PCBs related matters with a broader audience including other ministries, and donors. | **MU** |
| **OUTCOMES** | **OBJECTIVELY VERIFIABLE INDICATORS (OVIs)** | **TARGET** | **STATUS OF DELIVERY AT TERMINAL EVALUATION** | **RATINGS** |
| **Outcome 1(a):** Comprehensive identification of PCB in the country including in-service electrical equipment, PCB stockpiles/wastes and potentially PCB contaminated sites maintained | * Detailed inventory of PCB containing and contaminated equipment in service, existing PCB waste stockpiles and PCB contaminated sites in place in 2012. | * Comprehensive PCB inventory for in-service equipment, waste stockpiles and contaminated sites that will be maintained on an on-going basis. | * The official inventory led by MoEI, following procedures as set out in the “Rules of management, handling and disposal of the PCBs” adopted by MoEI and based on SC BEP, included 250 industries and enterprises. * Of 250 industries, 23 companies had available technical documentation on their electrical equipment, and based on a review of this documentation, 11 companies were reported to own equipment and materials potentially contaminated with PCBs. * 52 samples from both operational transformers and transformers already phased out, were collected from the 11 PCB holders including oil collectors and repair shops. * The largest amount of PCB equipment and oil was located in large enterprises and companies such as Electrical Grid Company and Interglass. * The inventory has identified 34 tonnes, 597 PCB containing capacitors. | **MU** |
| * Data management and mapping system operational and used for reporting in 2012. | * Publically accessible PCB information system operational, maintained, and used for reporting and information exchange under the Convention. | * Inventory data on PCBs is available at <http://tailing.in.kg/> website. | **MU** |
| * Supply of 250 PCB screening test kits and 4 portable analytical units with 10 personnel trained in their use by 2012. | * Screening capacity to effectively support detailed inventory maintenance as PCB management is undertaken in the future. | * 250 rapid PCB screening test kits (re-agents) were purchased as well as 10 express analysers (intended for 2 inspectorates, customs, Dept. of Sanitation and NESK). * Ten (10) staff were trained in the use of the screening test kits. | **S** |
| * Technical instructions on identification, sampling, servicing, safeguarding, and handling of PCB containing equipment in service and upon retirement, available in 2012. | * Availability and application of technical instructions for management of current and future PCB inventories. | * Draft Instruction on Inspection Procedure was endorsed and approved by the SAEPF (order #1), but was cancelled after May 2012, when SIEG ceased to exist and was merged with SIETS. * Technical regulations "*On electrical equipment*" and "*On secure maintenance of the electrical equipment and devices*" drafted (pending Government approval), as well as corresponding “Rules of management, handling and disposal of the PCBs containing materials, equipment and devices to regulate identification, collection and handling PCBs” developed (pending Government approval). | **MU** |
| Output 1.1: Detailed PCB Inventory (In-service equipment, stockpiles and wastes, contaminated sites)  Output 1.2: Data management, mapping, reporting and information exchange capability  Output 1.3: Technical instructions on identification, sampling, servicing, handling and storage of PCB containing equipment | | | | |
| **OUTCOMES** | **OBJECTIVELY VERIFIABLE INDICATORS (OVIs)** | **TARGET** | **STATUS OF DELIVERY AT TERMINAL EVALUATION** | **RATINGS** |
| **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*.* | * Publically accessible information on PCBs and their management, including: a) a maintained official website; ii) a widely distributed brochure; iii) media exposure (two annual campaigns during projects); iv) information events (two during project). | * Widely accessible current information on PCBs and ongoing management activities. * Integration into a national information programme on sound management of chemicals. | * Enhanced awareness through 10 (ten) published articles and 2 (two) broadcasted TV-programs. * Three (3) publications and one (1) booklet have been produced and disseminated. * Four (4) TV-programs were broadcasted at national and regional level, one with participation of the project’s International Expert. * Three (3) press conferences were held. * All project related information has been posted on [www.caresd.net/site/html](http://www.caresd.net/site/html) * Video materials were uploaded for public outreach and information <https://www.youtube.com/watch?v=GkBQOP2lzgQ&feature=youtu.be> and <https://www.youtube.com/watch?v=cjO5sVSG4-k&feature=youtu.be> | **MS** |
| * Educational curricula related to chemicals (including PCBs) impacts on environment and human health, and management actions for addressing the issue during the project. | * Inclusion of chemicals management and particularly PCBs in relevant educational programs, and active R&D interest in addressing it. | * A model curriculum and lectures on PCBs were prepared and an agreement with Minister of Education was reached, after which PCB modules were incorporated in the ecology module. Students at the following institutions received lectures on PCBs: Chemistry Faculty, Environmental Management Faculty, Lyceum (2x), College (1x), National Academy of Science (73 PhD students) * Seminars were held to train faculty staff (CPD Scientific Center – Proteco) * Materials on PCBs were donated to the university and environmental faculty libraries. | **S** |
| * Training and information seminars on chemicals management including PCBs for relevant government agencies, the academic community, affected communities, NGOs, and holders of PCBs (4 events during the project). | * Well-informed stakeholder community engaged in addressing the issue with a high level of understanding and technical capacity. | * 27 workshops, information seminars and round tables were organized over the length of the project. * 703 participants were trained during these events, of which 46% women and 54% men. * NESK trained an additional 300 staff on the implementation of the “Rules of management, handling and disposal of the PCBs containing materials, equipment and devices to regulate identification, collection and handling PCBs” which it adopted internally on a voluntary basis following the approval of the ministerial order on the same. | **S** |
| Output 1.4: Information products/programs for stake holder and public awareness | | | | |
| **Outcome 2:** Development and implementation of priority regulation measures to control the import/export, report, management and ultimate elimination of PCBs. | * Regulations requiring registration, labeling and status reporting of potential all PCB and PCB containing equipment in use in 2012. | * A comprehensive national regulatory registry of all PCB containing equipment in service that is maintained and updated such that its status and fate can be traced. | * Technical regulations "*On electrical equipment*" and "*On secure maintenance of the electrical equipment and devices*" drafted (pending Government approval). * “Rules of management, handling and disposal of the PCBs containing materials, equipment and devices to regulate identification, collection and handling PCBs” developed. * “Rules on registration, exploitation and storage of equipment, materials and waste containing PCB” which spell out responsibilities in terms of the management of PCBs, adopted by Order of Ministry of Energy and Industry No. 138 from 28 August, 2014 – this implies that on a voluntary basis PCB holders can adopt these rules (to date done by NESK) * Amendments made to “on production and consumption of wastes” to include PCB (pending government approval). * Amendment to “On sanitary – epidemiological control" adopted by Governmental Decree (No. 329 from 6 June, 2013), which regulates export, import and transit of POPs including PCBs and prescribes that holders of wastes including PCBs and other POPs are obligated to keep the stockpiles at the places of production until further options are identified. * Amendments made to “Collection of charges for improper PCB handling and preservation” for payment for pollution of the environment by PCBs. Adopted by Governmental Decree No. 559 on 19 September, 2011. * Amendments made to Governmental Decree “*On approval of classification of hazardous wastes and methodical recommendations on hazardous class definition*” dating from 15 January 2010 No. 9 to ensure that re-use of PCB equipment is prohibited. Adopted by Government Decree No. 877 on 31 December 2012. * Technical instruction on “*Inspections of Entities handling PCB Equipment*” adopted by an internal Order (Order #1) of the State Agency for Environment Protection and Forestry. * Draft regulations in the area of mandatory licensing of power consuming objects and limitation of re-use of PCB-equipment are passed for endorsement to the Government KR. | **U** |
| * Classification has already been adopted | * Explicit inclusion of high concentration PCB wastes as priority hazardous wastes in national waste management legislation/regulations. * Consistency of these with applicable international standards and the Basel Convention on trans-boundary movement of hazardous waste. | * Full list of PCB trademarks is developed, published and available to all stakeholders. * Amendments (in line with BC provisions) made to Governmental Decree “*On approval of classification of hazardous wastes and methodical recommendations on hazardous class definition*” dating from 15 January 2010 No. 9 to ensure that re-use of PCB equipment is prohibited. Adopted by Government Decree No. 877 on 31 December 2012. | **S** |
| * Establishment of MACs for PCBs in environmental media, consistent with international standards in 2012. | * Realistic and enforceable MACs for soil, water and air established that are consistent with international standards. | * Activity was dropped due to the regulatory changes. Following the establishment of the national regulatory registry and 2013 requirements, all MACs in environmental media will be regulated by the Law on Public health, which is currently under development. | **NA** |
| * Enactment of legal ban on new use, re-use, trade, import, and export of PCBs and PCB contaminated equipment and materials in 2012. | * Effective implementation and enforcement of use, re-use, trade, import and export bans including ensuring trade in scrapped contaminated PCB equipment and import of used PCB equipment is eliminated. | * The law “*On sanitary – epidemiological control*" approved by the Government decree #396 regulated export, import and transit of POPs including PCBs. The law expired in 2010, because all laws were to be reconsidered. * The project supported the development of an amendment to the Law “*On sanitary – epidemiological control*" which was adopted by Governmental Decree (No. 329 on 6 June, 2013), which regulates export, import and transit of POPs including PCBs and prescribes that holders of wastes including PCBs and other POPs are obligated to keep the stockpiles at the places of production until further options are identified. | **S** |
| * Legal measures allowing unrestricted regulatory access to information and locations that may have PCBs wastes, stockpiles, PCB containing equipment) and site contamination in 2012. | * Allowance in practice of access by mandated regulatory authorities to sites potentially containing or contaminated by PCBs, including rights to initiate assessment. | * Provision on Conducting Inspections (order #1) was approved in March 2012, but subsequently cancelled due to Government restructuring (SIEG being incorporated into SIETS). * Draft Technical Regulations, that represent the principal regulatory mechanism for PCB management at national level, are pending Government approval. | **U** |
| Output 2.1: Regulations requiring registration, labeling, and status reporting of PCBs  Output 2.2: Hazardous waste classification of PCBs  Output 2.3: MACs for PCBs  Output 2.4: Regulations on use/re-use bans, import/export of PCBs  Output 2.5: Provisions for unrestricted regulatory access | | | | |
| **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. | * Basic national analytical laboratory capacity to analyze for PCBs operational with upgraded equipment installed and trained personnel in place (10 people) by 2011. | * One accredited national laboratory capable of doing routine PCB analysis in soil, water and air samples inclusive of trained personnel and accessible to responsible regulatory authorities, PCB holders and service providers. | * The capacity of the National laboratory of the Ministry of Health (SES) has been strengthened by provision of a gas chromatograph through a World Bank project, and provision of a gas chromatograph by the PCB project, which was operational towards the end of 2012. * Training for eight (8) employees of the national SES laboratory staff on quantitative and qualitative identification of PCBs was conducted by the Czech Republic Research Centre for Toxic Compounds in the Environment (RECETOX), and staff received a certificate for GC analysis of PCBs. * Eight (8) national experts participated in specialized training at Masaryk University (Recetox Center) and a study-tour. * Two (2) SES lab staff also participated in a workshop on laboratory accreditation and introduction on new computer technologies (St. Petersburg). * Six (6) staff members of the National laboratory of the Ministry of Health (SES) were trained and certified on the identification of PCBs following the recent adoption of GOST (national standards based on those adopted in Russia) STB 61619-2013. * The SES laboratory has national accreditation since 2006. Its application for accreditation for analysis of PCB in oil is currently under consideration by the national accreditation body. * SES analyzed 52 PCB oil samples (see Annex XIV) from 11 companies. The analysis results indicated that all 52 samples analyzed contained less than 50 ppm of PCBs. A cross reference undertaken by a PCB laboratory in Kazakhstan which re-analyzed 7 of the 52 samples, confirmed the results obtained by the SES laboratory. * A gas chromatograph was purchased for the laboratory of SAEPF (as per Project Board decision of December 27, 2013) for analysis of PCBs but also POPs pesticides and dioxins. Equipment is awaiting installation. * 3 SAEPF laboratory staff members were trained on PCB analysis in oil by the SES laboratory during a 4-day training session. | **MU** |
| * Strategy and plan for pre-treatment and disposal of PCB stockpiles and wastes in place in 2012. | * Comprehensive strategy and plan adopted, defining selection and the process of implementation of pre-treatment and disposal options both to be applied in the country (i.e. equipment decontamination, soil management, potential cement kiln utilization) and through export, including potential regional activities. | * A long-term PCB phase-out plan for the monitoring and phase-out of PCB containing equipment was developed, but never adopted. * Some of its recommendations have been taken up in the National Strategy for the Sound Management of Chemicals and the National Strategy for Sustainable Development (See also Table 17). * National Strategy and Plan for the country's Sustainable Development 2013-2017 were developed and approved by Presidential decree #11, January 2013, but the plan was never financed. * The implementation plan for the SD Strategy (2014-2017) developed by the Government includes activities for finalization of technical regulations on PCBs, secure handling and organization of the temporary storage for PCBs wastes and equipment. | **MU** |
| * Development of standards and methodologies for on-going identification and assessment of contaminated sites, inclusive of 15 trained service provider staff to undertake it. | * Operational capacity within responsible government agencies and/or commercial service providers to undertake assessment and clean-up of PCB contaminated sites consistent with international practice. | * Two (2) Training-of-trainer events (24 trainers trained – 12 from the south and 12 from the north) on safety issues related to the handling of PCB material have been conducted, including aspects related to the identification and assessment of POPs contaminated sites. * Twelve (12) employees of SES participated in training on modern PCB identification analytical methodologies. * Participants of the study-tour to the RECETOX Center in Czech Republic obtained knowledge and skills in identification and assessment of contaminated areas. * The U.S. ISTM and Russian GOST methods/methodologies for identification of PCBs (testing protocols) were approved. | **MU** |
| * Long-term plan for the monitoring and phase-out of PCB containing equipment in service consistent with Convention requirements (2025) formally adopted. | * A fully elaborated detailed plan endorsed by responsible authorities and PCB holders for replacement of in service PCB equipment identified in the detailed national inventory (Outcome 1), consistent with Convention obligations | * A long-term PCB phase-out plan for the monitoring and phase-out of PCB containing equipment was developed, but never adopted. * Some of its recommendations have been taken up in the National Strategy for the Sound Management of Chemicals and the National Strategy for Sustainable Development (See also Table 17). | **MU** |
| Output 3.1: Capacity for PCB analysis  Output 3.2: Long term PCB phase out plans  Output 3.3: Standards and capacity for contaminated site management  Output 3.4: Strategy for pre-treatment and disposal of PCB stockpiles | | | | |
| **Outcome 4:**  Sustainable capacity to capture, package and securely store PCB stockpiles/wastes and ESM disposal of priority stockpiles | * Secure storage capacity for PCB stockpiles and wastes at major holders sites and central site(s) for material without a secure storage option (orphan material and equipment from sensitive locations) by 2013. | * Two nationally designated secure storage facilities established and equipped with necessary infrastructure for PCB waste stockpiles under continuing care and custody of a responsible government authority. * Major holders have secure storage facilities to accommodate PCB contaminated equipment when retired as an option. | * The Ministry of Energy allocated a land plot (June 4, 2014) near Manas airport (Manas village) in the sanitary zone. The land plot is categorized as a protective zone for radioactive waste from the health sector. SAEPF has requested an EIA to be conducted first. * Preparatory works including design blue prints, cost estimates and construction permits have been initiated by the Project. * Following the “Law on Sanitary and Epidemiological Control” approved by Government decree #396 and the “Law on Production”, holders of waste, including PCBs and other POPs, are obliged to keep the stockpiles at the places of production until further disposal options are identified. * The only PCB content PCB containing equipment (> 50 ppm) identified by the project are the PCB capacitors owned by NESK, these are still in operation and located in two substations, one close to Issy-kul lake and the other close to the Uzbekistan border. Access to substations is very much restricted. | **U** |
| * Feasibility assessment and decision respecting decontamination of PCB containing equipment to allow retention in service or minimization of elimination obligations. | * Establish the feasibility of environmentally sound transformer decontamination locally as an option to replacement and export of large volumes of materials for ESM disposal. | * Feasibility study on national potential/capacity to environmentally sound transformer decontamination was completed and concluded it is not feasible. | **MS** |
| * Trained and equipped service providers capable of undertaking packaging, transportation, and residual contamination clean-up for PCB wastes including training of 30 staff by 2013. | * Fully operational service provider capacity to support the securing of PCB waste stockpiles and transport to the designated national facility or export for disposal. | * Training module for service providers has been developed and approved. | **U** |
| * Disposal of 50 MT of PCB stockpiles by export to a qualified disposal facility by 2013. | * Environmentally sound disposal of 50 MT of POPs waste and local experience for future disposal requirements. | * NESK issued an official letter to indicate that it was ready to hand over its 579 PCB containing capacitors (34 tonnes) for storage and disposal. * 2 TNZ Micro transformers have been handed over to the Ministry of Energy through a signed agreement, but remain on the premises of the holder. Initially the project might have qualified these 2 TNZ transformers as PCB containing, while later on it was confirmed by SES analysis that PCB content was < 50 ppm. * 3.5 tonnes of transformer waste oil have been handed over to the Ministry of Energy, through a signed agreement, but remain on the premises of the holder. Initially the project might have qualified this waste oil as potentially PCB containing, while later on it was confirmed by SES analysis that PCB content was < 50 ppm. * In August 2014 an international tender was launched. 4 companies participated in the tender. Polyeco was the cheapest and provided two quotes i) 641,500 US$ by plane from Bishkek to France (18,900 US$/tonne) and ii) 451,500 US$ by rail to Kazakhstan (13,279 US$/tonne), and then by plane to France (PCB waste to be combined with Kazakhstan’s PCB waste). At the time the cost estimates for transport and disposal were received, the project had only 310,000 US$ left therefore none of the options proposed by Tredi was financially possible. The Project Board also deemed that a cost effectiveness of 13,300 US$/tonne was unsustainable. | **U** |
| Output 4.1: Development of secure storage capacity  Output 4.2: Feasibility of local/regional transformer de-contamination  Output 4.3: PCB service providers capacity  Output 4.4: Disposal of current PCB stockpiles | | | | |
| **Outcome 5:** Monitoring, learning, adaptive feedback, outreach and evaluation | * M&E and adaptive management applied to project in response to needs, mid-term evaluation findings with lessons learned extracted. | * Monitoring and Evaluation system developed during year 1. * Mid-term evaluation of project output and outcomes conducted with lessons-learned at 30 months of implementation. * Final evaluation report ready at the end of the project. | * Quarterly Progress Reports (QPRs)[[30]](#footnote-30) up to Q1 of 2012 prepared. * Annual Progress Report (APR) for 2011[[31]](#footnote-31) prepared. * Annual Project Implementation Reports (PIR) for 2011, 2012, 2013 and 2014 prepared. * Annual Work Plans (AWP) prepared for 2010, 2011, 2012, 2013, 2014 and 2015. * Project board meetings were held on Feb 2012; Jun 2013; November 2013; December 2013; April 2014; and, June 2014 and were chaired by the Ministry of Energy and Industry and SAEPF interchangeably to monitor implementation progress and suggest corrective actions when issues arise during project implementation. * Two GEF project coordination group sessions (December 27, 2013 and June 11, 2014) were also held during which overall implementation was discussed and adaptive measures were suggested to complete the project in due time. GEF project coordination group sessions took place for the first time in 2013. * MTE conducted. * TE initiated. | **S** |
| Output 5.1: M&E and adaptive management applied to project in response to needs, mid-term evaluation findings with lessons learned extracted.  Output 5.2: Lessons learned and best practices are replicated at national level | | | | |

The following section of the TE report provides the reasoning on the rating that was provided by the TE, as well as summarizes some important project results and facts that could not be captured in Table 11 but were important for the argumentation of the rating.

|  |  |  |  |
| --- | --- | --- | --- |
| **Outcome 1(a):** Comprehensive identification of PCB in the country including in-service electrical equipment, PCB stockpiles/wastes and potentially PCB contaminated sites maintained | | | |
| Indicators | | | **End of Project Targets** |
| 1a.1 | Detailed inventory of PCB containing and contaminated equipment in service, existing PCB waste stockpiles and PCB contaminated sites in place in 2012. | | Comprehensive PCB inventory for in-service equipment, waste stockpiles and contaminated sites that will be maintained on an on-going basis. |
| 1a.2 | Data management and mapping system operational and used for reporting in 2012. | Publically accessible PCB information system operational, maintained, and used for reporting and information exchange under the Convention. | |
| 1a.3 | Supply of 250 PCB screening test kits and 4 portable analytical units with 10 personnel trained in their use by 2012. | Screening capacity to effectively support detailed inventory maintenance as PCB management is undertaken in the future. | |
| 1a.4 | Technical instructions on identification, sampling, servicing, safeguarding, and handling of PCB containing equipment in service and upon retirement, available in 2012. | Availability and application of technical instructions for management of current and future PCB inventories. | |

**1a.1**: The project had to build on a baseline that was not very reliable (see explanation in section 2.2). As such, the project had to put considerable effort into conducting a more detailed inventory. This effort was made during the PPG phase (PPG phase inventory results are presented in Table 15), and subsequently by the MSP project itself.

The first phase of the inventory, collection of data on equipment potentially containing PCBs took place from the start of the project until 2013. The inventory surveyed a total of 250 potential holders (industries and enterprises, mostly in the energy generation and distribution sector), of which 23 provided technical documentation and 11 were reported to own equipment and waste potentially containing PCBs.

Initially the project made use of order #1 Technical instruction on “*Inspections of Entities Handling PCB equipment*” which had been adopted by an internal Order of SAEPF (03.01.2012) and allowed for unrestricted regulatory access to locations that may have PCBs (wastes, stockpiles, PCB containing equipment) and contaminated sites. However, the order had been cancelled at the time of the MTE (July/August 2012) due to government restructuring, and was never reinstated. Provision for inspections have now been taken up in the Technical regulations "*On electrical equipment*" and "*On secure maintenance of the electrical equipment and devices*" and will be undertaken by a commission, which will be made up of the equipment owner, SAEPF and MoH.

Because the Technical regulations "*On electrical equipment*" and "*On secure maintenance of the electrical equipment and devices*" are still pending Government, inventory results from only four (4) semi-private and private enterprises were included, as it proved too challenging for the project to obtain the data on a voluntary basis from enterprises other than those owned by government.

The second phase of the inventory, collection and subsequent analysis of oils potentially containing PCBs, took place from 2014 until February 2015. 52 samples were collected from 11 PCB holders by three (3) independent consultants from both operational equipment and equipment already phased-out and submitted to SES for analysis. Initially the lab had some problems with the GC provided by the project, which significantly delayed the analysis of the results. The company (Shimadzu – Japan) came to fix the GC and provide training to lab staff. The first results of the inventory became available in February 2015. According to SES, the inventory results indicated that oil samples contained PCBs in concentrations less than 50 ppm.

However, at the time of the TE it appeared as if the units in which the PCB concentration had been reported were unclear (ppm or ppt). Furthermore, the laboratory indicated that the international reference testing programme (PTA) had indicated to SES that PCB concentrations measured by the lab appeared to be a factor 2 too high. SES also indicated that it wanted to retest the samples in September.

In the meantime the project had already communicated to all holders that their equipment contained less than 50 ppm of PCBs.

*Recommendation*: The fact that the laboratory is unsure of its own unit of measurement used, and the quality of the analysis performed, suggests that it would be very wise for the project to have a number of PCB oil samples retested by an internationally accredited laboratory, possibly in Kazakhstan, using a small portion of the remaining project funds, to confirm whether indeed PCB concentration are less than 50 ppm. It would be suggested that the samples that have been taken from TNZ transformer, would be retested first. Note: At the time the TE report was finalized (Nov. 2015) the project had re-tested seven (7) samples in a laboratory in Kazakhstan. The cross-reference results indicated that initial results obtained by SES were accurate. As such it was concluded that all 52 samples contained less than 50 ppm of PCBs. The corrected inventory results have been presented in Annex XIV.

*Recommendation*: In the situation that there exists a lot of uncertainty about the NIP inventory results, it might be best to initially implement a pre-investment MSP project solely focusing on the inventory before developing and implementing a follow-up FSP PCB disposal intervention.

Because of the SES lab results, the only equipment that has been confirmed to contain PCB in Kyrgyzstan are the 597 PCB containing capacitors (34 tonnes), owned by NESK, which are still in operation in two sub-stations.

A summary of the results of the preliminary NIP and PPG inventories as well as the actual inventory conducted as part of the MSP (at the time of the MTE and TE) are presented in the Table below. For an overview of the results of the second phase of the inventory, kindly refer to Annex XIV.

Table 12: Overview of inventory results at different project stages *(NIP, PPG, MTE and TE)*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **NIP inventory** | **PPG** | **Status of the inventory at the time of the MTE** | **Status of the inventory at the time of the TE** |
| Transformers | 1 (estimated to contain 2.2 tons of PCB oil) | 22 *in-service* TNZ transformers (containing 32 tons of PCB oil, totaling 96 tons of material requiring decontamination and/or disposal)  Among these were 3 transformers, which had been identified, but their working condition had not been verified, since access to this equipment was restricted by the holders. | 25 (estimated to contain 36 tons of PCB oil)  Out of Service:  3 (1000) – 6,000 kg  2 (800) – 5,100 kg  7 (630) – 7,055 kg  7 (40) – 1,435 kg  TOTAL: 19  In service:  5 (1600) – 14,250 kg  1 (1000) – 1,855 kg  TOTAL: 6 | 52 oil samples were taken from 52 transformers as part of the inventory’s second phase.  PCB laboratory analysis conducted by SES indicated that all PCB oil samples contained less than 50 ppm. |
| Capacitors (in-service) | 789 (estimated to contain 18.8 tons of PCB oil) | 1,458 Power capacitors (containing 34.5 tons of PCB oil, totaling 83 tons of future material requiring disposal) | 2045 (containing 46,5 tons of PCB oil) | 597 PCB containing capacitors (in-service at two NESK substations) totaling 34 tonnes |
| Waste oil |  | 1.8 tons of PCB oil (drained from a transformer) | ~ 3.5 tons  (laboratory analysis should be carried out to determine the exact quantity of waste oils) | Tested as part of the inventory (< 50 ppm) |
| Electrical equipment repair and servicing sites (no). |  | 54 | 54 (approximate no. of sites, inventory of such sites is ongoing and expected to be completed by end-November) |  |
| **TOTAL** | * **1 transformer (2.2 T of oil)** * **789 capacitors (18.8 T of oil)** | * **22 transformers (32 T of oil)** * **1,458 capacitors (34.5 T of oil)** * **1.8 T of oil** | * **25 transformers (32 T of oil)** * **2,045 capacitors (46,5 T of oil)** * **3.5 T of oil** | * **597 PCB containing capacitors (in-service at two NESK substations) totaling 34 tonnes** |
| **TOTAL (tonnes of PCB containing oil)** | **21** | **68.3** | **82** | **14.1[[32]](#footnote-32)** |

*Observations*:

* The inventory has been successful in reducing the disappearance of PCB containing equipment. There is a reduced likelihood of PCBs entering the local and global environment. However, supporting legislation has to be approved and endorsed the soonest, as the safeguarding of PCB stockpiles, in particular those owned by holders which did not participate in the project, is currently not guaranteed.
* The inventory has predominantly focused on the Energy Sector – it would be recommended, once regulatory measures have been adopted and before a second phase PCB management project would be initiated, to extend the inventory to semi-private and private stakeholders from other sectors as well.
* The inventory took a considerable amount of time (May 2010 – February 2015), much too long to support other project activities, as for example PCB export and disposal activities are highly reliant on inventory results. Initially, political instability significantly impacted and delayed project implementation (e.g. in the case of the inventory, inspections to “politically unstable” regions had to be postposed and conducted in phases) and led to higher project induced costs. A second reason for significant delays was caused by GC equipment failure at SES, which did not allow for the rapid analysis of PCB oil samples.

**1a.2:** According to the project, Inventory data on PCBs is continuously updated and available at <http://tailing.in.kg/> website. However, it appears as if the latest results from the PCB analysis conducted by SES on the transformers and waste oils and the results on the inventory related to PCB capacitors, have not yet been captured on the website. It is suggested that this information is accurately reflected on the website.

**1a.3:** The project purchased 250 rapid PCB screening test kits as well as 14 express analyzers which were provided to two (2) Department of Sanitation (SES) and NESK. 10 staff were trained in the use of the rapid PCB screening test kits and 10 in the use of express analyzers.

**1a.4** *(see also description under 1a.1)* Order #1 technical instruction on “*Inspections of Entities Handling PCB equipment*” was developed with support of the project and adopted by an internal Order of SAEPF (03.01.2012), however was cancelled after May 2012, when SIEG ceased to exist and was merged with SIETS.

Technical regulations "*On electrical equipment*" and "*On secure maintenance of the electrical equipment and devices*" were drafted but are pending Government approval. The same goes for the corresponding “*Rules of management, handling and disposal of the PCBs containing materials, equipment and devices to regulate identification, collection and handling PCBs*”.

**Rating Outcome 1(a): Marginally Unsatisfactory (MU)**

*Argumentation*: A rating of MU is given by the evaluator, because of the following three reasons: Firstly, the inventory (phase 1 and phase 2) took an incredible long time to complete (2010 – 2015), however, even at the end of the project, the evaluator felt 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. Even though SES and the PMU had communicated to all PCB holders that oil samples contained less that 50 ppm of PCBs, the evaluator feels that considering the challenges faced by SES to analyze these samples, the results, at a minimum, are questionable and should be verified by a int. accredited laboratory the soonest, before holders dispose of PCB containing equipment in an unsound manner because they are unaware of the true concentrations of oil. **Note**: At the time the TE report was finalized (Nov. 2015) the project had re-tested seven (7) samples in a laboratory in Kazakhstan. The cross-reference results indicated that initial results obtained by SES were accurate. As such it was concluded that all 52 samples contained less than 50 ppm of PCBs. The corrected inventory results have been presented in Annex XIV.

Secondly, the website that contains the inventory results does not seem up to date. Thirdly because Technical regulations "*On electrical equipment*" and "*On secure maintenance of the electrical equipment and devices*" were drafted but are pending Government approval.

*Recommendation: Ensure that the latest PCB inventory results are made available on-line and handed over to MoEI or SIETS*. Hand over the inventory to MoE or SIETS, ensure they have access and that they make a commitment to managing 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, ensure to provide information on low and high content PCBs).

|  |  |  |
| --- | --- | --- |
| **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 | | |
|  | **Indicators** | **End of Project Targets** |
| **1b.1** | Publically accessible information on PCBs and their management, including: a) a maintained official website; ii) a widely distributed brochure; iii) media exposure (two campaigns during project duration); iv) information events (two during project). | * Widely accessible current information on PCBs and ongoing management activities. * Integration into a national information programme on sound management of chemicals. |
| **1b.2** | Educational curricula related to chemicals (including PCBs) impacts on environment and human health, and management actions for addressing the issue during the project. | Inclusion of chemicals management and particularly PCBs in relevant educational programs, and active R&D interest in addressing it. |
| **1b.3** | Training and information seminars on chemicals management including PCBs for relevant government agencies, the academic community, affected communities, NGOs, and holders of PCBs (4 events during the project). | Well-informed stakeholder community engaged in addressing the issue with a high level of understanding and technical capacity. |

**1b.1:** The project conducted and facilitated a significant number of awareness raising events to increase awareness and knowledge on POPs and in particular PCBs. These included national and regional level TV programs (4), press conferences (3) and videos (2).[[33]](#footnote-33)  The project also published a significant number of articles (10), publications (3) and a booklet (1) and facilitated their distribution in hard and soft copy.

Even though the project has conducted and supported many public awareness-raising events, these materials do not seem to be easily available in one place that is easily accessible to the public.

During the Inception Workshop it was decided not to create an additional web-resource due to the fact that with completion of project activities such web-sites are usually not updated and, as a result, closed. Instead it was decided to store the information on the project’s activities at the main [www.caresd.net](http://www.caresd.net) regional environmental information portal (by putting in the search term in Russian “ПХД в Кыргызстане»), which covers Central Asian countries.

*Recommendation*: **Ensure all project related materials are easily accessible to the public/project stakeholders.** Before the project comes to an end, the project should ensure that all regulatory documents prepared by the project, as well as other materials, such as (technical) guidelines, awareness raising materials, videos, publications and booklets, tools and the like are posted on the <http://www.caresd.net> website, to ensure that project related documentation remains easily accessible to project stakeholders, even though the project comes to an end.

**1b.2:** In particular in the early stages of the project, before the MTE took place, the project supported many activities to include chemicals management and particularly topics related to PCBs in relevant educational programs, and promote active R&D interest in addressing PCB issues. Many of these activities were implemented in close partnership with the SAICM QSP TF/UNDP/UNEP Project “*Kyrgyzstan, UNDP, and UNEP Partnership Initiative for the Integration of Sound Management of Chemicals Considerations into Development Plans and Processes*.”

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. Students at several institutions received lectures on PCBs (Chemistry Faculty, Environmental Management Faculty, Lyceum (2x), College (1x), National Academy of Science (73 PhD students)). In addition, seminars were held to train faculty staff (CPD Scientific Center – Proteco) and materials on PCBs were donated to the university and environmental faculty libraries.

*Recommendation*: Ensure that a copy of the PCB modules and other educations materials (model curriculum and lectures) remain available and are posted on a project related website to ensure that materials will remain available in the future.

**1b.3:** Throughout its duration the project organized a significant number of training and information seminars on chemicals management including PCBs for relevant government agencies, the academic community, affected communities, NGOs, and holders of PCBs. In the Tablebelow is an overview provided of the workshops and trainings facilitated and organized by the project.

Table 13: Project Workshops and Gender Distribution

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Topics | No. of Workshops | Total Participants | Women | Men |
| Project Inception Workshop | 1 | 28 | 7 | 21 |
| Strengthening capacities for SAICM implementation and Capacity Building in Kyrgyzstan | 1 | 30 | 12 | 18 |
| "Environmental Assessment of objects containing PCBs" | 1 | 25 | 10 | 15 |
| Training-of-trainers on safe PCB handling | 1 | 12 | *NK* | *NK* |
| Training of NESK technicians. | 1 | 15 | *NK* | *NK* |
| Metal collectors received training on PCB risks, equipment handling, and transport. | 1 | 15 | *NK* | *NK* |
| Environmental inspectors from all regions of the country were trained on proper PCB-wastes control and are able to identify PCB-equipment by equipment design, time of manufacture, specific uses in high temperature industrial areas. | 3 | 65 | *NK* | *NK* |
| General specialized seminars on PCBs | 12 | 260 | 104 | 156 |
| Discussion of the Draft Law “On production wastes and its exploitation” | 1 | 16 | 9 | 7 |
| Regional seminar on Implementation of Strategic Approaches to the International Regulation of Chemical Substance and PCB Management | 3 | 121 | 60 | 61 |
| Round table on discussion of Decree “Requirements on pesticides safety” | 1 | 21 | 6 | 15 |
| Round table on discussion of proper chemical substance management | 5 | 164 | 96 | 68 |
| Round table on discussion of drafts legal acts in the sphere of production wastes and it’s exploitation Management | 1 | 18 | 10 | 8 |
| Round table on discussion of project application on non-organized industrial emission and mercury in the sector of Health care. | 1 | 20 | 10 | 10 |
| TOTAL | **33** | **810** | **324** | **379** |

In total, the project organized 33 workshops, information seminars and round tables. During these events 810 stakeholders were trained, of which 46% women and 54% men (percentages have been based on the women/men distribution for the events for which this type of information was available).

In addition, NESK trained 300 staff on the implementation of the “*Rules of management, handling and disposal of the PCBs containing materials, equipment and devices to regulate identification, collection and handling PCBs*” which it adopted internally on a voluntary basis following the approval of the ministerial order on the same.

Therefore it can be concluded that the project trained (directly and indirectly) a total of ~ 1,000 PCB stakeholders.

During the TE, the evaluator felt that the stakeholder community was well informed on PCB management and its importance and that all stakeholders interviewed showed a high level of understanding. It is assumed that in addition to the training and awareness raising events organized by the project, the process of conducting the inventory has also significantly contributed to this heightened awareness and knowledge.

**Rating Outcome 1(b): Satisfactory (S)**

*Argumentation*: This rating has been provided because first and foremost, the number of people who received training organized by the project (~ 1,000) was quite significant for a MSP sized project. Secondly, because the project conducted and facilitated a significant number of awareness raising events and prepared various and diverse awareness raising materials (booklets, publications, videos, TV shows, etc.) to increase awareness and knowledge on POPs and in particular PCBs. Finally, through cooperation with the UNDP/UNEP SAICM project, and national universities the project was able support the development of a model curriculum and lectures on PCBs which were incorporated at several educational institutions to ensure the continuation of awareness raising and research at national level on PCBs and POPs in the future.

Even though it is challenging for a TE to validate the knowledge and awareness of project stakeholders, students and the general public on POPs issues and in particular PCBs, the evaluator concluded that the project had done its utmost in achieving as much awareness on the subject of PCBs as possible.

|  |  |  |
| --- | --- | --- |
| **Outcome 2:** Development and implementation of priority regulation measures to control the import/export, report, management and ultimate elimination of PCBs. | | |
|  | **Indicators** | **End of Project Targets** |
| **2.1** | Regulations requiring registration, labeling and status reporting of potential all PCB and PCB containing equipment in use in 2012. | A comprehensive national regulatory registry of all PCB containing equipment in service that is maintained and updated such that its status and fate can be traced. |
| **2.2** | Classification has already been adopted | * Explicit inclusion of high concentration PCB wastes as priority hazardous wastes in national waste management legislation/regulations. * Consistency of these with applicable international standards and the Basel Convention on trans-boundary movement of hazardous waste. |
| **2.3** | Establishment of MACs for PCBs in environmental media, consistent with international standards in 2012. | Realistic and enforceable MACs for soil, water and air established that are consistent with international standards. |
| **2.4** | Enactment of legal ban on new use, re-use, trade, import, and export of PCBs and PCB contaminated equipment and materials in 2012. | Effective implementation and enforcement of use, re-use, trade, import and export bans including ensuring trade in scrapped contaminated PCB equipment and import of used PCB equipment is eliminated. |
| **2.5** | Legal measures allowing unrestricted regulatory access to information and locations that may have PCBs wastes, stockpiles, PCB containing equipment) and site contamination in 2012. | Allowance in practice of access by mandated regulatory authorities to sites potentially containing or contaminated by PCBs, including rights to initiate assessment. |
| Output 2.1: Regulations requiring registration, labeling, and status reporting of PCBs  Output 2.2: Hazardous waste classification of PCBs  Output 2.3: MACs for PCBs  Output 2.4: Regulations on use/re-use bans, import/export of PCBs  Output 2.5: Provisions for unrestricted regulatory access | | |

**2.1:**  At the time 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. The accompanying “*Rules of management, handling and disposal of the PCBs containing materials, equipment and devices to regulate identification, collection and handling PCBs*” had already been developed with project support.

Technical regulations are required to be approved at Government level. However, since September/August 2014 the Ministry of Economy put a ban in place on the development and approval of new laws and regulations. This ban was put in place in anticipation of Kyrgyzstan joining the Customs Union (which it did on 12 July 2015) and the fact that Kyrgyzstan is required to harmonize technical regulations with other countries in the Customs Union. It is expected that regulations related to PCBs will receive significantly less priority than other regulations, which also are required to be harmonized.

The fact that these regulations have not been approved, jeopardizes the establishment of a comprehensive national regulatory registry of all PCB containing equipment in service that is maintained and updated in the future. Except for the PCB containing equipment that was surveyed as part of the project’s inventory, it is expected that further action on expanding the inventory to additional PCB holders (in particular private and semi-private ones) is unlikely to happen until the regulatory measures mentioned above have been approved.

In the meantime 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 Ministry of Energy and Industry (No. 138 from 28 August, 2014). This implies that on a voluntary basis PCB holders can adopt these rules. In March 2015, NESK adopted this order internally.

The project has also undertaken an assessment to review the potential of PCB movement within the customs union and regulatory amendment which would need to be undertaken to make this feasible, as well as associated costs.

*Observation*: An important observation of the TE is that since the start of the project, and the political unrests that occurred in 2010, the Government of Kyrgyzstan, its ministries and its institutions have undergone frequent government changes. These frequent challenges are considered by the evaluator the second biggest challenge encountered by the project. Government changes resulted in changes being made to the Ministries and institutions with whom the project dealt on a day-to-day basis, turnover of high-level staff and changes being made to national priorities and requirements for the regulatory framework following such changes. These frequent changes are in part responsible for the non-approval to date of the regulatory measures developed with support of the project.

*Lesson-learned*: An important LL which emerged from the implementation of this project component was that it might have helped if a more inclusive working group on regulatory instruments would have been established, involving additional critical partners such as the Ministry of Justice as well as others, such as large PCB holders. This might have saved time in the regulatory approval process as it is ultimately the Ministry of Justice that needs to approve developed regulatory drafts.

*Recommendation***: Continue efforts to get the technical regulations approved**. The TE advices that in order to ensure sustainability of project results and to put in place an adequate baseline for a potential future PCB project, national partners have to continue demonstrating willingness for PCB management (MoEI to take the lead, but with involvement from NESK, SAEPF, UNDP) and show this commitment through approval of the technical regulations at government level. Without approval of these technical regulations it might not be worthwhile to start a second phase PCB project, as there would not be the possibility to expand the PCB inventory to companies not yet surveyed and because a potential donor might not be willing to consider a second project if no legislative basis is in place.

*Recommendation*: It is recommended that continued support for legislative approval could potentially be provided by UNDP and national partners, while piggy backing on other environment related programmes in order to keep the ball rolling.

**2.2:**  During the project’s development, the indicator for this output was “*Adoption of appropriate hazardous waste classification of PCBs and PCB contaminated materials in 2011*”. However the OVI was removed at the time of the project’s Inception Workshop (January 2011) considering a hazardous waste classification, including PCBs, had already been adopted by a Government Degree “*On approval of classification of hazardous wastes and methodical recommendations on hazardous class definition*” (15 January 2010 No. 9) as part of a UNDP waste management project “*Capacity Building for Implementation of Sustainable Waste Management Principles in the Kyrgyz Republic*” Project.

Then, during the implementation of the project, amendments (in line with BC provisions) were made to this Governmental Decree to ensure that re-use of PCB equipment is prohibited. This amendment was adopted by Government Decree No. 877 on 31 December 2012.

The project also developed, published and made available to all stakeholders a full list of PCB trademarks.

**2.3:** The project output related to the establishment ofMACs for PCBs in environmental media, consistent with international standards in 2012, was cancelled due to regulatory changes. Following the establishment of the national regulatory registry and 2013 requirements, all MACs in environmental media will be regulated by the Law on Public Health. The law is currently under development.

**2.4:** The law “*On sanitary – epidemiological control*" approved by the Government decree #396 initially regulated export, import and transit of POPs including PCBs, however expired in 2010, because all laws were to be reconsidered.

The project supported the development of an amendment to “*On sanitary and epidemiological control*" that was adopted by Governmental Decree (No. 329 from 6 June, 2013) which regulates export, import and transit of POPs including PCBs and prescribes that holders of wastes including PCBs and other POPs are obligated to keep the stockpiles at the places of production until further options are identified.

**2.5:** To date the project has been unsuccessful at putting in place legal measures allowing unrestricted regulatory access to information and locations that may have PCBs wastes, stockpiles, PCB containing equipment) and site contamination.

Initially the project supported the development of order #1 on “*Inspections of Entities Handling PCB equipment*” which was adopted by an internal Order of SAEPF (03.01.2012) and allowed for unrestricted regulatory access to locations that may have PCBs (wastes, stockpiles, PCB containing equipment) and contaminated sites. However, the order was cancelled in May 2012 following government restructuring (when SIEG was incorporated into the newly established SIETS). Unfortunately the order was never reinstated.

Currently, because the Technical Regulations "*On electrical equipment*" and "*On secure maintenance of the electrical equipment and devices*" are still pending Government approval, government entities, in particular enforcement agencies/inspectorates, do not have unrestricted access to information and locations that may have PCBs wastes, stockpiles, PCB containing equipment and site contamination. This is a particular challenge when obtaining PCB information from private and semi-private enterprises.

**Rating Outcome 2: Marginally Unsatisfactory (MU)**

*Argumentation*: This rating was provided as it is a rating averaged out between the **Satisfactory** rating that was provided to the project outputs related to the *Classification of PCBs* and the *Enactment of a legal ban on import/export, new use/re-use and trade of PCBs and PCB containing equipment* which were both achieved with project support; and the **Unsatisfactory** rating that was provided to the project outputs related to the *Regulations requiring registration, labeling, and status reporting of PCBs* and *Provisions for unrestricted regulatory access*, which in both cases has been developed but not yet been approved.

In particular the non-approval of the technical regulations, which is expected to take very long, in light of the recent accession of Kyrgyzstan to the Customs Union and the 2014 ban on the development and approval of new regulations, seriously jeopardizes the sustainability of project results and the country’s future advances in the area of PCB management.

|  |  |  |
| --- | --- | --- |
| **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 | | |
|  | **Indicators** | **End of Project Targets** |
| **3.1** | Basic national analytical laboratory capacity to analyze for PCBs operational with upgraded equipment installed and trained personnel in place (10 people) by 2011. | One accredited national laboratory capable of doing routine PCB analysis in soil, water and air samples inclusive of trained personnel and accessible to responsible regulatory authorities, PCB holders and service providers. |
| **3.2** | Strategy and plan for pre-treatment and disposal of PCB stockpiles and wastes in place in 2012. | Comprehensive strategy and plan adopted, defining selection and the process of implementation of pre-treatment and disposal options both to be applied in the country (i.e. equipment decontamination, soil management, potential cement kiln utilization) and through export, including potential regional activities. |
| **3.3** | Development of standards and methodologies for on-going identification and assessment of contaminated sites, inclusive of 15 trained service provider staff to undertake it. | Operational capacity within responsible government agencies and/or commercial service providers to undertake assessment and clean-up of PCB contaminated sites consistent with international practice. |
| **3.4** | Long-term plan for the monitoring and phase-out of PCB containing equipment in service consistent with Convention requirements (2025) formally adopted. | A fully elaborated detailed plan endorsed by responsible authorities and PCB holders for replacement of in service PCB equipment identified in the detailed national inventory (Outcome 1), consistent with Convention obligations |
| Output 3.1: Capacity for PCB analysis  Output 3.2: Long term PCB phase out plans  Output 3.3: Standards and capacity for contaminated site management  Output 3.4: Strategy for pre-treatment and disposal of PCB stockpiles | | |

**3.1:** The project supported the capacity building of two (2) national laboratories, firstly the National Laboratory of the Ministry of Health (SES) and secondly the laboratory of the State Agency for Environmental Protection and Forestry (SAEPF).

**SES**: The national laboratory had already been provided with a gas chromatograph through a World Bank project, and through the UNDP/GEF PCB project was provided with a liquid chromatograph. The latter was operational towards the end of 2012.

The project applied for funding (50,000 US$) from the Czech Trust Fund (an Emergency Trust Fund through a UNDP Special Fund), which was subsequently applied towards capacity building for laboratory practices related to PCB analysis with technical assistance provided by the Czech Republic Research Centre for Toxic Compounds in the Environment (RECETOX) at Masaryk University.

Training for 12 employees of SES on quantitative and qualitative identification of PCBs was conducted by RECETOX in Kyrgyzstan (staff received a certificate for GC analysis of PCBs). Subsequently eight (8) national experts participated in a specialized training at Masaryk University (RECETOX Center) and a study-tour in the Czech Republic. Two (2) SES lab staff also participated in a workshop on laboratory accreditation and introduction on new computer technologies (St. Petersburg) however funding for this was not provided by the project.

SES and the project worked to adopt the ISTM standard (American), and the project supported the translation of 4 USEPA methodologies. The ISTM standard (in comparison to the GOST standards adopted later) proved a bit challenging to get approved because of the calculation for the parameters, but was eventually achieved.

Later on during project implementation the laboratory started working on the adoption of the GOST standard (Russian), which proved easier to validate because it included a different calculation for parameters. The challenge with the GOST standard was that it could only be introduced in Kyrgyzstan 6 months after approval in Russia. Kyrgyzstan ultimately got the GOST methodology approved in 2014.

Following the adoption of GOST (national standards based on those adopted in Russia) STB 61619-2013, six (6) staff members of the National laboratory of the SES were trained and certified on the identification of PCBs. This training was provided by the company Shimadzu (Japan), which came to SES to repair the GC, which encountered some challenges when the lab was ready to start the analysis of the PCB oil samples.

The SES laboratory has national accreditation since 2006. In order to obtain national accreditation for PCBs in oil, an accreditation plan was developed and endorsed by SES management. The first round of evaluation observed a number of inconsistencies that the laboratory had to address, such as service fee, testing methods, skills as well as the requirement that the lab had to participate in an international reference testing programme. Since then the SES has participated in the “PCBs in Oil Round 7 Proficiency Testing Program” of Proficiency Testing Australia (PTA). The SES laboratory managed to analyze one (1) sample out of four (4) correctly. The results of the reference testing as well as other changes made by SES following the evaluation have been sent to the national accreditation body, and SES’s application for accreditation for analysis of PCB in oil, is under consideration.

SES in particular provided support to the second phase of the PCB inventory (*see also section 3.3 – 1(b).1*). Re-agents for the analysis were provided by the project, while the associated staff costs for the analysis were provided by SES as co-financing to the project.

SES was provided with 52 samples PCB oil samples which were collected from 11 PCB holders by three (3) independent consultants from both operational equipment and equipment already phased-out. The first results of the inventory became available in February 2015. According to SES, the inventory results indicated that oil samples contained PCB in concentrations less than 50 ppm. However, at the time of the TE it appeared as if the units in which the PCB concentration had been reported were incorrect (ppt instead of ppm). Furthermore, the laboratory indicated that the Australian international reference testing programme (PTA) had indicated to SES that PCB concentrations measured by the lab appeared to be a factor 2 too high. SES also indicated that it wanted to retest the samples in September for its own capacity building purposes.

*Recommendation*: At the time of the TE mission, the results of the PCB oil analysis of 52 samples conducted by SES seemed unclear. The evaluator was of the opinion, that even though results were already been communicated to PCB holders, it was important that at least some of the PCB oil samples would be retested in an internationally accredited laboratory (possibly in Kazakhstan) to rule out misanalysis by the SES laboratory. In the period September – November, the project had 7 samples retested in Kazakhstan. The PCB laboratory in Kazakhstan confirmed the findings of the SES laboratory. A final inventory list with corrected units has been included in Annex XIV.

*Lesson-learned*: **High lab analyst turnover**. An important challenge encountered by SES was that of the initial eight (8) people trained in PCB analysis, only one currently remains at SES. In turn, he has been able to train other analysts at SES in PCB analysis, however they cannot be provided with a certificate of proficiency. As time goes, capacity at SES appears to be deteriorating (in term of total number of staff having the capacity for PCB analysis).

**SAEPF**: At the Project Board meeting held on 17 December 2013, it was decided that a gas chromatograph would be purchased for the laboratory of SAEPF for analysis of PCBs but also POPs pesticides and dioxins. The reasoning behind this decision was that otherwise there would not be a possibility for cross-referencing results within the country. It should be noted that this activity was not part of the original PLF.

The equipment was delivered in March 2015, but is still awaiting full installation. One equipment part is in one room and the other part in another room as SAEPF did not have a room suitable and large enough to accommodate the equipment. It is currently identifying co-financing to be able to refurbish a laboratory room so that it can accommodate both GC parts. In the meantime, 3 SAEPF laboratory staff members were trained on PCB analysis in oil by the SES laboratory during a 4-day training session.

**Recommendation:** If MoH, SAEPF and the Government will not continue to advance the capacity and expertise of the two (2) laboratories supported by the project (SES and SAEPF) the capacity built by the project will soon be lost. **Additional capacity building seems to be necessary for SES in order to obtain int. accreditation** (responsibility SES), while for SAEPF it seems critical that the equipment is installed properly the soonest in a suitable laboratory room and basic capacity of SAEPF is built to ensure they are able to analyze PCB oil samples (responsibility SAEPF). Once basic capacity is in place, the laboratory of SAEPF could aim for national accreditation and participate in an international reference programme. One way forward could be that that SES and SAEPF, with UNDP assistance, apply for support from the RECETOX/UNDP Czech Republic Fund for additional capacity building, which appears to be critical.

**3.2:** A long-term PCB phase-out plan for the monitoring and phase-out of PCB containing equipment was developed, but never adopted. Some of its recommendations have been taken up in the National Strategy for the Sound Management of Chemicals and the National Strategy for Sustainable Development (2013 - 2017), which has been approved by Presidential decree #11, January 2013. The implementation plan for the SD Strategy (covering the period 2014 - 2017) developed by the Government, includes activities for finalization of technical regulations on PCBs, secure handling and organization of the temporary storage for PCBs wastes and equipment.

**3.3:** The project and SES supported the adoption of standards and methodologies for the identification and assessment of contaminated sites. Both the U.S. ISTM and Russian GOST methods/methodologies for identification of PCBs (testing protocols) were approved.

In terms of trained service providers, two (2) training-of-trainer events (24 trainers trained – 12 from the South and 12 from the North) on safety issues related to the handling of PCB material have been conducted, including aspects related to the identification and assessment of POPs contaminated sites. In addition twelve (12) employees of SES participated in training on modern PCB identification analytical methodologies (including water and soil), while participants of the study-tour to the RECETOX Center in Czech Republic obtained knowledge and skills in identification and assessment of contaminated areas.

That said, there does not really exist operational capacity within responsible government agencies and/or commercial service providers to undertake assessment and clean-up of PCB contaminated sites consistent with international practice. Simply because all capacity built has been provided in a laboratory setting and no “hands-on” identification (collection and analysis of soil/water samples) and clean-up of PCB contaminated sites, as those activities have not been undertaken/demonstrated by the project.

**3.4:** Pertaining to the project target to develop and endorse/adopt (by government and PCB holders) a “long-term plan for the monitoring and phase-out of PCB containing in-service equipment consistent with Convention requirements (2025)”, it can be mentioned that a long-term PCB phase-out plan for the monitoring and phase-out of PCB containing equipment was developed, but never adopted. See also **3.2**.

**Rating Outcome 3: Marginally Unsatisfactory (MU)**

The reasons for the rating provided are as follows: i) The project target to have one accredited national laboratory capable of doing routine PCB analysis in soil, water and air samples and 10 trained personnel in place has not yet been attained. SES accreditation for PCB analysis in oil is pending, and SES does not have the accreditation to conduct analysis in other environmental media (water and air). Although the number of SES staff trained over the course of the project has surpassed the 10, to date only a few of those trained staff members remain at the lab due to high turnover rates. Furthermore, the TE has questioned the outcomes of the PCB oil analysis of 52 samples which all indicated a PCB concentration lower that 50 ppm, and made recommendations for retesting; ii) The fact that the GC provided to SAEPF has not yet been installed and is thus not operational. Although SAEPH has received some training it is doubted it is sufficient to adequately operate the GC equipment and correctly analyze PCB samples; iii) In line with project targets, a strategy and plan for pre-treatment and disposal of PCB stockpiles and wastes has been developed and aspects of it have been taken up in the National Strategy (2013 - 2017) for the country's Sustainable Development and its implementation plan; iv) Standards and methodologies for the identification and assessment of contaminated sites (ISTM and GOST) have been adopted, but even though people have received training on how to managed and clean-up contaminated sites, no national agency/entities/service provider has hands-on experience in this area; and finally v) a long-term plan for the monitoring and phase-out of PCB containing equipment was developed but never adopted. Some of its recommendations have been taken up in the National Strategy for the Sound Management of Chemicals and the National Strategy for Sustainable Development (2013 - 2017), however it is unclear whether indeed these activities will be implemented.

|  |  |  |
| --- | --- | --- |
| **Outcome 4:** Sustainable capacity to capture, package and securely store PCB stockpiles/wastes and ESM disposal of priority stockpiles | | |
|  | **Indicators** | **End of Project Targets** |
| **4.1** | Secure storage capacity for PCB stockpiles and wastes at major holders sites and central site(s) for material without a secure storage option (orphan material and equipment from sensitive locations) by 2013. | * Two nationally designated secure storage facilities established and equipped with necessary infrastructure for PCB waste stockpiles under continuing care and custody of a responsible government authority. * Major holders have secure storage facilities to accommodate PCB contaminated equipment when retired as an option. |
| **4.2** | Feasibility assessment and decision respecting decontamination of PCB containing equipment to allow retention in service or minimization of elimination obligations. | Establish the feasibility of environmentally sound transformer decontamination locally as an option to replacement and export of large volumes of materials for ESM disposal. |
| **4.3** | Trained and equipped service providers capable of undertaking packaging, transportation, and residual contamination clean-up for PCB wastes including training of 30 staff by 2013. | Fully operational service provider capacity to support the securing of PCB waste stockpiles and transport to the designated national facility or export for disposal. |
| **4.4** | Disposal of 50 MT of PCB stockpiles by export to a qualified disposal facility by 2013. | Environmentally sound disposal of 50 MT of POPs waste and local experience for future disposal requirements. |
| Output 4.1: Development of secure storage capacity  Output 4.2: Feasibility of local/regional transformer de-contamination  Output 4.3: PCB service providers capacity  Output 4.4: Disposal of current PCB stockpiles | | |

**4.1: Centralized PCB Storage:** The establishment of two (2) designated secure storage facilities equipped with the necessary infrastructure for PCB stockpiles under custody of a government agency, proved to be one of the most difficult project outputs to achieve.

During the development of the project, MoEI had committed in-kind co-financing in the form of two (2) locations for temporary safeguarding. However after Government restructuring the new Ministry of Energy issued an official letter to UNDP indicating that it could no longer uphold its co-financing commitments. The fact that the co-financing commitment fell away seriously impacted the project and slowed down the project’s implementation, considering alternatives for storage sites had to be explored with partners other than the MoEI.

For example, the project:

* Explored a potential partnership with a local municipality in the North of the country where an agro-chemicals neglected warehouse could potentially store PCBs. A local government degree was issued stating that the warehouse was allowed to store PCBs, afterwards the site had to be registered as a safeguarding site.
* Tried to engage with the Asian Development Bank (ADB) through its *Development of the Energy Sector in Kyrgyz Republic* programme, with the intension to use ADB funding as co-financing to partially cover costs related to the establishment of an interim storage facility. Ultimately the ADB was no longer interested in the safeguarding of PCB wastes.
* Explored possibilities with two POPs pesticide related projects, the UNEP/GEF Regional project “*DSSA Demonstrating and Scaling Up Sustainable Alternatives to DDT for the Control of Vector-Borne Diseases in Southern Caucasus and Central Asia*” and the FAO/GEF Regional Project “*Lifecycle Management of Pesticides and Disposal of POPs Pesticides in Central Asian Countries and Turkey.*” These projects also include components related to inventory, repackaging and temporary storage at an interim facility. Initially the FAO and UNEP programmes indicated that they wanted to partner with UNDP on storage facilities, while later on an international consultant engaged by FAO indicated that it POPs pesticides and PCBs could not be stored in the same storage facility.

Ultimately, also spurred by recommendations from the MTE to generate more project ownership from the MoEI, the project reinitiated co-financing discussions with the MoEI through involvement of the State Secretary and UNDP’s Senior Management team. As a result the Ministry renewed its commitment to support the project in identifying a temporary storage location.

MoEI subsequently allocated a land plot (June 4, 2014) near Manas airport (Manas village) in the sanitary zone. The land plot is categorized as a protective zone for radioactive waste from the health sector and a Government degree, dating back to ’91, stipulates that besides radioactive healthcare waste, nothing can be constructed/stored in the sanitary zone. MoEI then wanted to change the degree, and add a clause along the lines of “except for PCB waste up to 2025”.

The UNDP/GEF project helped to provide argumentation for the amendment, however SAEPF opposed this approach, and indicated that first an EIA should be conducted as it was concerned about cross-contamination. In order to conduct the EIA however, the degree would have to be changed first (“chicken and the egg”).

At the time of the TE, the project had already prepared the necessary design blue prints (100 m2), cost estimates and construction permits, as well as a technical plan for the safeguarding of PCBs for endorsement by SEAPF. That said, the evaluator felt that the parties involved would not soon come to an agreement on the Manas Village site and that a centralized storage facility for PCBs would not likely be constructed within the project’s duration, even if an additional project extension would have been requested.

*Observation*: The real active engagement of the MoEI on identifying a suitable storage site/facility started too late into the project. At the time the first suitable site was identified, the project was already very near to its closing date.

It should be noted that the FAO and UNEP GEF obsolete POPs pesticide projects have throughout project implementation encountered very similar challenges as the PCB project in identifying interim storage facilities for obsolete pesticides and have so far been unsuccessful. The projects have now joined forced and have recently launched a tender through SAEPF (with funding provided by the UNEP/DDT project), which requests companies to submit a bid for conducting 3 EIAs and identify 2 additional potential sites.

**Recommendation:** If the process led by UNEP/FAO/MoA on identification and selection of potential locations for POPs pesticide storage facilities proves successful, this approach should be applied by MoEI to identify an interim storage facility for PCBs. Efforts on this can be re-launched once the FAO/UNEP tender has been concluded, results have been achieved and the approach has proven successful.

**Recommendation:** Considering the identification of an interim storage site/location is proving so challenging in Kyrgyzstan (as also indicated by the experiences of the UNEP and FAO POPs project), for a next phase PCB project it is recommended that locations for storage sites have been selected and agreed upon prior to project start.

**Storage at holders**: In accordance with the law “on Sanitary and Epidemiological Control” approved by Government decree #396 and the law “on Production”, holders of waste, including PCBs and other POPs, are obliged to keep the stockpiles at the places of production until further disposal options are identified.

To date the only PCB containing equipment (> 50 ppm) identified by the project are the PCB capacitors owned by NESK, these are still in operation and located in two substations, one close to Issy-kul lake and the other close to the Uzbekistan border. Access to substations is very much restricted (see photos in ANNEX IV: SUMMARY OF FIELD VISITS), equipment is operated under high voltage and NESK personnel is trained in PCB management (including maintenance and spill management).

**4.2:** As concerns establishing the feasibility of environmentally sound transformer decontamination at national/local level as an option to replacement and export of large volumes of materials for disposal, a feasibility study carried out by the project concluded it is not feasible.

**4.3:** Achieving that service providers are trained and equipped to undertake packaging, transportation, and residual contamination clean-up for PCB wastes (including training of 30 staff) was severely hampered by the fact the key regulatory measures are still pending approval (in particular the Technical Regulations on PCB management) and that the export of PCB waste did not materialize.

If PCB export would have been undertaken by the project, the service providers would have been trained by the international company responsible for the oversight of packaging, transportation and export of the PCBs wastes. Service providers would then have been sufficiently capacitated to support those type of activities on their own in the future. However, as PCB export did not materialize, neither was this component.

The project however did develop a training module for service providers, which has also been approved.

**4.4** “*Disposal of 50 MT of PCB stockpiles by export to a qualified disposal facility by 2013.*” The export of PCB wastes turned out the most challenging and time consuming part of the project. The main challenge faced by Kyrgyzstan in the export of PCB waste for disposal abroad (which is a challenge faced by several other land-locked Central Asian countries, like Kazakhstan in the export of PCBs, but also the export of obsolete POPs pesticides), is the prohibition of trans-boundary movement of PCB containing oils and PCB containing capacitors by land (railroad) through Russia and China (the shortest routes), as well as other bordering countries.

It is unclear to the evaluator how much effort was put into exploring various export routes by the Kyrgyzstan project team, or whether the project team mostly relied on the information obtained by the Kazakhstan PCB project that was, with the support of PolyEco, exploring seven (7) export routes (for a summary of the export routes, kindly refer to the TE report of the Kazakhstan PCB management project – Table 17). Eventually it was concluded that the only way to export PCBs would be by air.

In August 2014 (before the analysis results of the second phase of the inventory had been obtained – which only became available in February 2015) an open-ended international tender was launched for the packing, transportation, export and environmentally sound disposal of various quantities (20, 34 or 50 tonnes of PCB wastes). The tender included two options:

1. Export of PCBs to Kazakhstan to be combined with Kazakhstan PCB waste intended for air transportation and disposal abroad
2. Direct export (by air) of Kyrgyzstan PCB waste to a disposal facility abroad.

Four (4) companies participated in the tender. Please find in the Table below the cost estimates provided by each company that participated in the bidding for each option.

Table 14: Cost estimates provided by the companies participating in the international bidding (November 2014)

|  |  |  |
| --- | --- | --- |
| Company | Costs [USD]  **PCB waste transportation by rail to Kazakhstan and then by plane to a disposal facility.** | Costs [USD]  **By plane from Bishkek to a disposal facility.** |
| 1. **Polyeco** | 451,500 | 641,500 |
| 2. **SetCar S.A.** | - | 661,080 |
| 3. **Veolia** | Disqualified from the bidding because of the submission of incomplete paper work | |
| 4. **SITA** | Disqualified from the bidding due to absence of an explanation on the equipment disassembly and cleaning process | |

At the time the project had received these offers (November 2014) it had only 310,000 US$ left in project funds, as such it did not have sufficient funds available to cover these expenses.

In the situation that sufficient project funds would have available and the Government of Kyrgyzstan would have been successful in disposing of the 34 tonnes of PCB capacitors through the cheapest option (Polyeco) as taken up in the table above, this would have implied a cost per tonne of 13,279 US$, assuming that export to Kazakhstan by rail followed by disposal at Tredi in France would have worked out.

In reality, the PCB project in Kazakhstan had already packed, put in storage and prepared for export and disposal at Tredi 80 tonnes of PCB capacitor waste, which was being stored in an interim storage facility at the time the TE evaluation mission visited that storage facility in December 2014 (please refer to the TE report of the Kazakhstan PCB Management project)[[34]](#footnote-34). Based on these facts, the TE evaluator is of the opinion that export to Kazakhstan followed by export to Tredi would have been very unlikely to have worked out, considering the Kazakhstan PCB project seemed to have gone ahead making its own arrangements rather than awaiting the outcomes of the PCB project and export/disposal tender in Kyrgyzstan.

It should also be noted, that in the situation that Kyrgyzstan had been able to export its PCB wastes, via Kazakhstan to France for disposal, the ultimate costs would have been in the range of 13,300 US$/tonne, in case it would have exported PCB wastes directly to France, this would have increased to 18,900 US$/tonne. This is at a minimum twice as much as the costs of PCB capacitor disposal incurred by the Kazakhstan PCB project which were 7,343 US$/tonne. While at the project conception stage it was assumed that export/disposal costs would be in the range of 1,000 – 2,000 US$/tonne as per experiences from other PCB management project in CIS countries.

*Lesson-Learned***:** Export and disposal costs for PCBs in the case of Kyrgyzstan were severely underestimated at the project’s conception stage. Costs for export/disposal proved 6 – 7 times more expensive than initially assumed. This was because assumptions were based on export costs from CIS countries that had been able to export their waste by train and were impeded by import/transportation bans of PCB wastes.

*Observation:* The results of the PCB oil analysis (second phase of the inventory) became available in February 2015, while the open ended tender procedures had been concluded in November 2014. The Project Board took the decision to go ahead with an open tender to save time later on and to obtain an idea of the costs for transport and disposal of a variety of disposal quantities (20, 34 and 50 tonnes of PCB containing equipment/wastes) and a two export routes (by place directly to a disposal facility in Europe, or by train to Kazakhstan and from there by plane to a disposal facility in Europe), which would help in their decision whether the project had sufficient funds left to cover transport and disposal costs. At the same Project Board meeting the decision was taken to go ahead with the second phase of the inventory. The extreme length of the inventory process (2010 – 2015) impacted the time when the tender could be launched. If the inventory would have been concluded much earlier – its results could have provided valuable insights in the amount of PCBs available, and helped redirect the project much earlier.

The Project Board which met on 10 November 2014 deemed that a cost-effectiveness of 13,300 US$/tonne was unrealistic and not sustainable, therefore it was decided to not spend the project funds on disposal but on capacity building and storage infrastructure instead.

*Observation*: The evaluator is of the opinion that the Kyrgyzstan PCB project relied heavily on the PCB Kazakhstan project for information on potential export routes and secondly on the potential export/disposal of PCB wastes (by combining PCB wastes from both countries). However, it was also felt that sometimes, the project in Kyrgyzstan relied too heavily on the other project – missing out on critical information and becoming too responsive rather than proactive.

**Recommendation:** A 2nd phase PCB project should/would only focus on disposal and destruction abroad. Therefore before a proposal for a second phase PCB project should be submitted, the following needs to be put in place by the Government of Kyrgyzstan to show their commitment to the sound management of PCBs: 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 or the hazardous waste facility in Kazakhstan is operational. ***Critical*:** Monitor closely the realization of the Kazakhstan hazardous waste facility (2018-2020) 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 has been harmonized, to help indicate a time when disposal/transportation would be significantly cheaper.

In order to get a sense of the PCB wastes that had been identified at the time of the TE evaluation, kindly refer to Table 12 and Annex XIV.

**Rating Outcome 4: Unsatisfactory (U)**

*Argumentation*: The overall rating for project outcome 4 and its outputs and target is **Unsatisfactory**. This rating is given predominantly for the reason that most of the results and target that were expected to be achieved by the project as part of this component were not attained. The evaluator is not of the opinion that the project did not try its utmost to achieve these targets, however particular challenges faced in the establishment of a storage facility and the challenges that were faced (country and Central Asia specific) in the disposal of PCBs abroad proved such, that eventually the project did not succeed in achieving these two targets. The evaluator feels that it was a reasonable decision by the PB to decide that the cost-effective of PCB disposal abroad was such that first economies of scale had to be obtained (by identifying additional PCB waste volumes), before such an option would be considered again. The project evaluator also feels that it makes sense to return unused funds to the donor, as further spending of project funding will not lead to achieve the GEB targeted by the project.

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### 3.3.1 Overall results (attainment of objectives) **(MU)**

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With respect to the attainment of the project’s objective the TE rates this aspect as **Marginally Unsatisfactory (MU)**.

In the Table below, the project’s objectives have been presented as well as information detailing why the evaluators believe that objectives should be rates as **Marginally Unsatisfactory (MU)**.

Table 15: Project Objectives and Proof of their Attainment

|  |  |  |
| --- | --- | --- |
|  | Rating | Comments |
| Project Objective:  Minimizing environmental and health risks associated with PCBs though strengthening technical and regulatory capacity for the environmentally sound management and disposal of PCBs in Kyrgyzstan | **MU** | * The project has supported the identification of high content PCB containing equipment and wastes (34 tonnes) and has identified PCB levels (< 50 ppm) in 1,315 tonnes of identified wastes and equipment. * Although no export/disposal of PCBs has taken place, and PCB containing wastes and equipment remain on the premises of PCB holders, holders have been trained as part of the project in proper management and safeguarding of PCB containing waste and equipment. * Since the execution of the inventory and the adoption of regulatory measures, the disappearance of PCB containing equipment seems to have stopped.   As such it is concluded that, even though PCB containing wastes are still present in their original locations, holders and people who come in close contact with these wastes are better informed on how to safely handle and maintain them, thus safeguarding their health, that of others and the environment. |
| OVI: Established and sustainable operational and regulatory capacity undertaking identification and management of PCBs in compliance with Stockholm Convention obligations by 2011 | **MU** | * See explanations provided below. * Some operational capacity has been established (capacity buildings of laboratories and through training of stakeholders). * Some regulatory measures have been approved/adopted, although the most important ones are still pending approval – it is expected that these will not be approved in the near future. |
| Target 1: Functional regulatory regime covering import/export, identification, capture and securing PCBs for future disposal. | **MU** | *In Table 11, and the narrative part of section 3.3, the status on of the regulatory regime is provided in more detail.*  It should be noted that although import/export/use/re-use/trade of PCBs and PCB containing wastes and equipment is prohibited and PCBs have been classified as hazardous wastes, important technical regulations, in particular the Technical regulations "*On electrical equipment*" and "*On secure maintenance of the electrical equipment and devices*" are still pending government approval.  The MoEI has adopted the accompanying “Rules on registration, exploitation and storage of equipment, materials and waste containing PCB” by Order of the Ministry, however this means that PCB holders can adopt these on a voluntary basis.  This implies that holders (until approval of the regulations) can continue using PCBs containing equipment, phase-out dates have not yet been mandated, and holders are not obliged to identify, report on or phase-out/dispose of PCB containing equipment. |
| Target 2: Operation capacity for ESM of current and future stockpiles and waste. | **U** | * No centralized storage facility(ies) has/have been established. * No export/disposal of PCB wastes has taken place. * The project concluded that decontamination of transformers at national level was not feasible. * PCB containing capacitors (> 50 ppm) remain in service at NESK. * PCB containing transformers and wastes (< 50 ppm) remain in service or stored on the premises of holders. * PCB holders have been trained/capacitated by the project to manage PCB properly. |
| Target 3: Informed PCB holders and qualified service providers to undertake PCB management activities. | **MS** | * The project trained approximately ~ 1,000 people, * As part of the inventory work, the project reached out to 250 enterprises in the energy and industry sector. * No service providers have been trained, as export/disposal did not take place. * Two (2) laboratories have some capacity in the analysis of PCBs in oils and other media, but have not yet attained accreditation for such analysis. |
| Target 4: Clear assignment of responsibilities within the government. | **MS** | * Although roles and responsibilities were clearly assigned during the project’s implementation it is unclear what responsibilities the main project partner (MoEI) will assume after the project comes to an end. |
| Overall Rating | **MU** |  |

**Recommendation:** Support the MoEI in drawing up an easy to follow action plan for any outstanding project activities, as well as any actions that would need to be taken by project partners before a second phase PCB project could be considered.

Based on the overage rating for each of the project results by outcome and project-sub-activity (kindly refer to the last column of table 9), the rating for overall product results has been rated as **Marginally Unsatisfactory (MU)**.

### 3.3.2 Relevance (Relevant) **(R)**

*Relevance: “Extent to which the activity is suited to local and national environmental priorities and policies and to global environmental benefits to which the GEF is dedicated.”*

The project “*Management and Disposal of PCBs in Kyrgyzstan*” is deemed relevant in light of the Objective of the Stockholm Convention, which is: “*to protect human health and the environment from persistent organic pollutants*”.

The objective and outcomes of the project contributed towards the Strategic Objective of GEF-4 for Persistent Organic Pollutants focal area (C.31.10) which sets the long term impact of GEF interventions as the protection of human health and environment by assisting countries to reduce and eliminate production, use and releases of POPs, consequently to contribute generally to capacity development for the sound management of chemicals.

The 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*.

Furthermore, most of the national PCB priorities as taken up in Kyrgyzstan’s National Implementation Plan (NIP), which was approved by Government Resolution No. 371 on July 3, 2006, the project aimed to address. In the Table below the NIP priorities as addressed fully or partially through this project have been underlined.

The project was also in line with national environmental policies, which focus on reducing pollution and eliminating pressure and impacts on human health and the environment. Reducing and eliminating POPs, within the broader context of the sound management of chemicals - remains an integral part of state political, economic and social country development programmes in the Kyrgyz Republic. For example:

* The **Mid-Term Development Programme for the Kyrgyz Republic (2012 – 2014)** highlights “Irrational use of chemicals is one of the causes of the raison for environmental objects contamination, especially where obsolete pesticides have been buried. That’s why a comprehensive programme on the safe management of chemicals, using on inter-sectoral approach, is planned to be developed.”
* The **National Strategy for the country's Sustainable Development 2013-2017** has been approved by Presidential decree #11, January 2013. The implementation plan for the Sustainable Development Strategy (2014-2017) developed by the Government includes activities for finalization of technical regulations on PCBs, secure handling and organization of the temporary storage for PCBs wastes and equipment.

As such, work undertaken within the scope of the project under evaluation is deemed **Relevant (R)** in light of broader national development objectives.

Table 16: PCB activities as outlined in NIP and as addressed in the PCB project proposal (underlined)

|  |
| --- |
| PCB activities as outlined in NIP |
| 1. Management of stockpiles (pesticides, PCBs) and wastes (POPs) in an Environmentally Safe Manner (ESM), including:   * **Making an additional inventory, repacking, collecting and transporting POPs-pesticides from revealed stockpiles to interim warehouses and storing them till their final destruction; eliminate burial grounds of pesticides in the Kochkor and Suzak regions.** * **Carry out a detailed inventory of PCB-contaminated equipment - transformers, capacitors and oils; develop a database; label all equipment; set up areas for holding, collecting and transporting PCB-materials; controlling the repair and oil changes of PCB- contaminated equipment; designing a plan for destroying PCB- contaminated equipment and oils;** * **Assessing unintentional releases and their impact on the environment in the two largest cities of the country (Bishkek and Osh); preparing a feasibility report (FR) on recycling medical wastes; develop a national strategy on reducing releases as a result of burning fuel, domestic wastes and polluted plant residues of cotton and tobacco to heat houses in the countryside; developing an action plan to reduce or eliminate sources of unintentional POPs releases; promote BAT and BET;** * **Making additions and amendments to the legislation concerning POPs management in accordance with international standards; develop a full package of directive and normative documents;** * **Develop a POPs database; organize a monitoring and evaluation system; develop appropriate methods and improve the technical capabilities of laboratories; establish regional cooperation on POPs problems in Central Asia.** |
| 2. Develop appropriate strategies for identifying POPs-contaminated sites and on-site remedial measures in an environmentally safe manner, namely:   * **Assess the current situation on POPs-contaminated sites showing the degree of pollution and hazard assessment;** * **Propose BAT and BET on minimizing/eliminating sources of unintentional releases;** * **Develop guidelines for on site remedial work.** |
| 3. Public information, awareness and education in particular:   * **Involve the mass media in popularizing POPs problems;** * **Prepare educational material and manuals for secondary schools and higher educational institutions;** * **Widespread participation of the public in deciding POPs problems.** |
| 4. Scientific research, developments and monitoring of POPs and similar chemicals, particularly:   * **Active participation in international POPs programmes;** * **Solving problems of trans-border movements of pollutants (glaciers, rivers, lakes) through regional cooperation with China, Kazakhstan, Tajikistan and Uzbekistan; hazard assessment and elaboration of united actions;** * **Developing technologies for reducing and eliminating POPs releases;** * **Designing medications to remove POPs from the human body.** |
| 5. Establish an inter-departmental coordinating committee on implementation of the Stockholm Convention's requirements and appoint its working body. |

Because of the various reasons mentioned above, the project was deemed Relevant (R).

### 3.3.3 Effectiveness **(MU)** &Efficiency **(MU)**

Part of the reasoning that has been provided in this section to substantiate the ratings, has also been presented in Table 19, Comments Section.

*Effectiveness: “Extent to which an objective has been achieved or how likely it is to be achieved.”*

**Effectiveness**: The project’s objective: “*Minimizing environmental and health risks associated with PCBs though strengthening* ***technical*** *and* ***regulatory*** *capacity for the environmentally sound management and disposal of PCBs in Kyrgyzstan*” has been partially achieved.

*In terms of strengthening the technical capacity for ESM and disposal of PCBs*: The project was successful in building national capacity for conducting PCB inventories (desk review of electrical equipment documentation, conducting inspections/visits, sampling, provision and use of rapid screening tests and express analyzers, capacity building of laboratories in PCB analysis, among else), which led to the identification of 34 tonnes of PCB capacitors (high content PCBs) as well as the identification of 1,315 tonnes of low content PCB equipment (< 50 ppm).

Unfortunately, because Technical Regulations are not yet approved, it was challenging for the project to gain access to information and PCB containing equipment and wastes owned by private and semi-private companies. If there are unidentified PCBs in the country it is likely that these are owned by private and semi-private companies, which did not participate in the inventory.

However, since the execution of the inventory and the adoption of regulatory measures prohibiting the new use/re-use/trade/import and export of PCB containing equipment and wastes, the disappearance of PCB containing equipment seems to have stopped as a direct result of the project.

Furthermore, the project has trained over 1,000 stakeholders in the sound management of PCBs. Among those are PCB holders and their personnel. Considering PCB containing wastes are still present in their original locations, holders and people who come in close contact with these wastes are better informed on how to safely handle and maintain them, thus safeguarding their own health, that of others and the environment.

*In terms of strengthening the regulatory capacity for ESM and disposal of PCBs*:

It should be noted that although import/export/use/re-use/trade of PCBs and PCB containing wastes and equipment has been prohibited and PCBs have been classified as hazardous wastes, important technical regulations, in particular the Technical Regulations "*On electrical equipment*" and "*On secure maintenance of the electrical equipment and devices*" are still pending government approval. In the mean time the MoEI has adopted the accompanying “*Rules on registration, exploitation and storage of equipment, materials and waste containing PCB*” by Order of the Ministry. However adoption of these, until government approval of the technical regulations mentioned previously, is on a voluntary basis. NESK has adopted these rules internally in March 2015.

This implies that holders (until approval of these Technical Regulations), in particular those holders that are private or semi-private and which have not participated in the inventory, can continue using PCBs containing equipment and are not obliged to identify, report on, phase-out or dispose of PCB containing wastes and equipment. In the situation that these holders have not participated in awareness raising events, and training of PCB management, the condition under which this type of equipment is stored, operated or maintained cannot be guaranteed and thus can continue to pose through to certain population groups at risk.

In conclusion, considering PCB wastes are still in their original locations *the* *environmental and health risks associated with PCBs though the strengthening of* ***technical*** *and* ***regulatory*** *capacity for the environmentally sound management and disposal of PCBs in Kyrgyzstan* cannot be said to have been **minimized**. However, as a result of the project, the risk from PCBs has been **reduced** as PCB holders, government entities and laboratories have gained awareness on the risks posed by PCBs and a large potion of PCB holders has received training on the sound management of PCBs. Personnel who come in close contact with PCB containing wastes and equipment are better informed and capacitated on how to safely handle and maintain these, thus safeguarding their own health, that of others and the environment.

It is for this reason that the project’s **Effectiveness** is rated as **Marginally Unsatisfactory (MU)**.

*Efficiency: “Extent to which results have been delivered with the least costly resources possible.”*

**Efficiency (U)**: Project activities were implemented in such a way that cost-effectiveness was achieved throughout project implementation. The implementation followed standard UNDP rules and regulations and assured that procurement processes were open, transparent and competitive. All larger contracts were published internationally. UNDP procurement procedures for all project activities, including selection of services and equipment, was based on the best quality/cost ratio.

It should be mentioned that the project requested two (2) no-cost extension, for 6 months and again for 6 months. As a result of prolonged project duration, the project did not have sufficient funds to cover PMC costs. Therefore, the project ensured synergies with the UNDP/GEF Healthcare Waste Management project and made use of its Project Coordinator and a Project Assistant, while costs for these was charged against the HCWM project. The evaluator feels that this was a good practice and sensible way of ensuring synergies between GEF Chemicals and Waste projects.

However, there are two main reasons for which the project’s efficiency is rated as **Unsatisfactory (U)**. Firstly, most project targets, and in particular the more significant ones, e.g. disposal of PCBs, approval of regulatory measures to ensure long-term sustainability, were not achieved. Nevertheless, the project spent nearly 759,146 US$ in GEF funding and 74,681 US$ in UNDP provided TRAC funds. Secondly, the evaluator also felt that the purchase of a Gas Chromatograph analyzer intended for the laboratory of SAEPF (98,738.00 US$) was not necessary. On the one hand because is was not included in the project’s design, but even more so because at the time of the project neither the equipment was operational, or was SAEPF staff thought to be able to conduct a good quality PCB analysis (the evaluator feels that without further support, this situation might not change in the near future).

It should be mentioned that efficiency for PCB management projects is often measured in the costs per tonne of PCB waste and PCB equipment disposed of. In the case of Kyrgyzstan, the least costly option (train to Kazakhstan, plane to France) would have amounted to 13,300 US$/tonne; while in the situation that PCB wastes would have been exported directly to France, this would have increased to 18,900 US$/tonne. This type of cost efficiency would have been unprecedented, and from the perspective of the donor would probably have been unacceptable (normally export/disposal costs would be in the range of 1,000 – 2,000 US$/tonne). The Project Board decided that such a cost efficiency was not expectable, and they are probably right.

UNDP and the project’s national partners, expect to return ~ 160,000 US$ to the GEF[[35]](#footnote-35), when the project has been operationally and financially closed. The evaluator feels that this was a wise decision to take by the Project Board, as it was obvious that further prolongation of the project and spending of donor funds, would not bring the project closer to achieving its results, in particular results related to PCB disposal.

In conclusion, the project’s efficiency has been rated as **Unsatisfactory (U)** as per the reasons presented above. However the evaluator is pleased to point out that the project took a reasonable decision to return remaining project funds to the GEF.

### 3.3.5 Country Ownership

The Government of Kyrgyzstan has been committed to the safe management of PCBs as demonstrated by the signature of the Stockholm Convention on 16 May 2002 and its subsequent ratification on 12 December 2006. With the support of a GEF EA grant through UNEP acting as implementing agency, the preparation of the NIP[[36]](#footnote-36) was undertaken from 2003 until 2005. The NIP was approved by Government Decree #371 in July 2006 and has been included in the Concept on Environment Security in KR, adopted by Presidential Decree of KR on 23 November 2007, #506. As part of the EA project in the preparation of the NIP, a initial list of national POPs priority actions was discussed and agreed upon with all project stakeholders. These conclusions formed the basis of an Action Plan that was nominally adopted in 2007 for inclusion as part of national environmental policy.

At the time of project conceptualization (PIF, PPG) stakeholders that had been involved in the elaboration of the NIP were fully engaged in the project’s design, and country ownership was deemed satisfactory. Table 16 provides an overview of the PCB priorities as taken up in the NIP and as they have been addressed in the PCB project proposal.

**Government changes impacting country ownership**: 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 – impacting the speed of project implementation as well as jeopardizing country ownership, which was already observed at the time of the MTE. 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 (including ministries and institutions that were the project’s national implementing partners, e.g. Ministry of Energy and Industry, State Inspectorate of Environmental and Technical Safety under the Government of the Kyrgyz Republic (SIETS), State Agency for Environmental Protection and Forestry (SAEPF) and the Ministry of Health).

In order to illustrate the changes the government system went through, it should be noted that the Minister of Energy changed four (4) times and the Director of SAEPF three (3) times in the time that has elapsed when the project started implementation until the MTE. Between the MTE and the TE only the Ministry of Energy changed (once). In retrospect, it appears as if the government restructuring impacted country ownership to a larger extent than the changes in government itself.

Between the LPAC (February 2010) and the Inception Workshop (January 2011) no national project implementing partner was appointed due to Government changes and restructuring. However, because project implementation had to advance, the project worked closely with national experts working within the institutional structures of the project’s main implementing partners. A major advantage of the project’s collaboration with these national experts was that they had a less high turnover and were more directly involved in particular in the drafting of decisions and regulations on a day-to-day basis. However, the MTE concluded that it was important to also ensure high-level buy in when the government situation was more stable, to ensure that the project’s expected results are supported at the highest level of government. After the MTE was concluded the project put more effort into engaging high-level decision makers from the various stakeholder organizations (MoEI, SAEPF and MoH). For example, the project organized for a meeting between UNDP’s Senior Management and the State Secretary of MoEI, after which the MoEI’s commitment to the project changed dramatically. The Ministry and the PMU also ensured that weekly meetings were held to brief each other on progress made and next steps.

**Co-financing as an indicator for country ownership**: The financial commitment which the government and other stakeholders initially made during the project design phase (indicated by means of co-financing letters provided by national counterparts) compared with the actual financial commitment which the government and national project stakeholders have maintained throughout project implementation can be considered an important indicator to assess the country’s ownership. *Section 3.2.4 (Project Finance – and in particular its subsection on co-financing)*, describes in detail the challenges the project encountered in getting the co-financing, that was pledged during the project’s development, to actually materialize.

In particular the co-financing from MoEI (the project’s main implementing partner), in the form of land allocation for the construction of an interim PCB waste storage facility, which had not materialized at the time of the TE, impacted the project considerably. Not only in terms of the non-establishment of a centralized storage facility, but also in terms of the efforts and financing spent by the project to look for alternative solutions. Another example is the laboratory room that was to be assigned and refurbished by SAEPF for the installation of the GC provided by the project. At the time of the TE this SAEPF commitment has not yet materialized and resulted in the GC not being used. Co-financing commitments not materializing jeopardize the success of the project and impact its result, but might also give the sense that project partners are not really committed to the project.

**DIM implementation leading to reduced ownership**: Even though the project was intended to be executed following established UNDP National Implementation (NIM) procedures, since the start of its implementation, the project is being implemented using Direct Implementation Modality (DIM) as per UNDP’s Fast Track Procedure established for improving the speed and timeliness for response to crises and other special situations. Even though all major project decisions, such as the signing off of the Annual Work Plans (AWP) were assumed by MoEI and major project decisions are approved by the Project Board, because the project is not executed using NIM modality it might impact to some extent country ownership. The project was often perceived by project stakeholders as a project implemented by “UNDP” rather than by the Ministry of Energy and Industry.

Based on the observations made during the TE mission, and the manner in which the project was developed and implemented, the evaluator was of the opinion that the country’s ownership for this project was **Marginally Satisfactory (MS)**.

### 3.3.6 Mainstreaming

It should be mentioned that the project did not contain a specific mainstreaming component when it was developed. However, the project did succeed in important mainstreaming results.

The PCB management project, supported by the UNDP Country Office and various UNDP environment related projects (for an overview of these projects please refer to section 3.1.7), in particular the project “*SAICM QSP TF/UNDP/UNEP Project “Kyrgyzstan, UNDP, and UNEP Partnership Initiative for the Integration of Sound Management of Chemicals Considerations into Development Plans and Processes*” resulted in a number of important PCB and Sound Management of Chemicals (SMC) related priorities being integrated in a number of national development plans and strategies, see the Table below).

Table 17: Overview of PCB and SMC related priorities mainstreaming in national planning documents

|  |  |  |
| --- | --- | --- |
| Name of Programme | PCB and/or SMC related priorities being taken up | Approval date |
| National Strategy for the country's Sustainable Development 2013-2017 | The implementation plan for the Sustainable Development Strategy (2014-2017) developed by the Government includes activities for finalization of technical regulations on PCBs, secure handling and organization of the temporary storage for PCBs wastes and equipment. | Adopted by Governmental Decree of the Kyrgyz Republic Jogorku Kenesh  No. 3694-V of December 18, 2013 |
| Programme on the Sound Management of Chemicals (until 2017) | PCB activities regarding the disposal and regulations included | Adopted by Governmental Decree No 91 from 2 March 2015 |
| Mid-Term Development Programme for the Kyrgyz Republic (2012 – 2014) | 9.3 Ensuring Environmental Security  354. *“Progressing urbanization of the territorial is accompanied by reducing accessibility to a good quality drinking water and adequate sewerage systems, significant air pollution from emissions, from fixed sources and motor transport, the problem of accumulation of solid household waste. Irrational use of chemicals is one of the causes of the raison for environmental objects contamination, especially where obsolete pesticides have been buried. That’s why a comprehensive programme on the safe management of chemicals, using on inter-sectoral approach, is planned to be developed*.” | Approved in 2012 but withdrawn in November of the same year. |
| Ministry of Emergency Situations  Strategy of integrated safety of population & territories in emergency situations (2020) | The Annex to the strategy contains a registry of risks, and the project contributed to the risks that were included (risks related to hazardous chemicals), the risk analysis as well as proposed activities related to risk mitigation of the risks posed by hazardous chemicals. | Approved in July 2012 |
| Ministry of Agriculture and Melioration | The PCB and SAICM project were able to integrate aspects related to:   * Organic agriculture issues * Access to more safe pesticides * Disposal of 150 tons of obsolete pesticides. |  |
|  | The PCB and SAICM project were able to integrate aspects related to:   * (D2) Apply Health and Environment Linkages Initiative (HELI) Methodology. * (D3) Reinstate the registration of hazardous substances * (A4/1) Improvement of legislation on safety and hygiene on labor related to chemicals with a particular focus on preventive measures. * (C1) Dissemination of educational materials on prevention of diseases (infectious – and non-infectious) * (C2) Exchange of information on successful practices on improvement of health nearby places of disposal of hazardous wastes and chemicals. |  |

It should be mentioned though that it was mainly the responsibility of the UNDP/UNEP SAICM project to mainstream the above-mentioned priorities. However, because in the PMU office, the PCB and SAICM project were located next to each other and shared many of the chemical experts/consultants (and during a specific period even the project coordinator) this allowed for very successful joint efforts of both chemicals projects. Even though most results were predominantly achieved by the SAICM project, the PCB management played a key role in attaining this degree of mainstreaming.

Additional co-development benefits/impacts of the project that should be mentioned are:

* **Improved Health Benefits (MDG 4 – Reduce Child Mortality & MDG 5 – Improve Maternal Health)**. By safeguarding population groups at risk (in particular those that are considered to be at a heightened risk and impact from exposure to PCBs such as maintenance workers, repair men, women of child-bearing age, foetuses and small children) these population groups now have a lower health risk from PCBs, which also has important consequences for future healthcare costs and human suffering. The project achieved this through capacity building and training on safeguarding and management of PCBs.
* **Gender Equality (MDG 3 – Promote Gender Equality and Empower Women)**. The project ensured that women and men had equal opportunities to benefit from training organized by the project. In total, the project organized 27 workshops, information seminars and round tables. During these events 703 stakeholders were trained, of which 46% women and 54% men. It should be mentioned though that people who are most likely to be exposed to PCBs are men, as the energy sector and maintenance firms that service electrical equipment are predominantly employing men. As such, it’s quite remarkable that the project was able to reach out and engage such a high percentage of women in workshops and trainings. It is believed that awareness and capacity building on the risks and management of PCBs empowers people (whether men or women) to take informed decisions, protect themselves and others, and speak out when necessary.
* **Response capacity in the event of an Emergency/Natural disaster.** The project (in partnership with the UNDP/UNEP SAICM project) also built the capacity of the Ministry of Emergencies to ensure that, in the event of an emergency/natural disaster, the Ministry would be able to respond to situations that involve hazardous materials and/or chemicals, resulting in better emergency preparedness.

Based on the mainstreaming results obtained, the evaluators are of the opinion that this aspect – even though it was not embedded in the project’s design – can be considered **Highly Satisfactory (HS)**.

### 3.3.7 Sustainability **(MU)**

*Sustainability: “Likely ability of an intervention to continue to deliver benefits for an extended period of time after completion; projects need to be environmentally as well as financially and socially sustainable.”*

In the Table below, the four aspects of sustainability (Financial Sustainability; Socio-Political; Institutional Framework and Governance; and Environmental Sustainability) are presented as well as the rating provided by the evaluators.

The ratings used for sustainability aspects of the project are the following: Highly Likely; Likely; Moderately Likely; Moderately Unlikely; Unlikely; Highly Unlikely.

Table 18: Project Sustainability Ratings

|  |  |
| --- | --- |
| **Sustainability** | **Rating** |
| *Financial Resources*:   * **High costs for inventories, phase-out and disposal**: Once the Technical Regulations have been approved, PCB holders will be solely responsible to carry the costs for inventories (including costs for sampling, express analysis and GC analysis), phase-out of PCB equipment and replacement by non-PCB equipment, as well as transportation and disposal costs at an approved disposal facility abroad. These costs are considerable (as indicated by the cost estimates that resulted from the international tender for PCB disposal). With the exception of NESK, during project implementation PCB holders already indicated that they did not have the financial resources to phase-out in-service equipment, or even hand over out-of-service equipment and PCB containing waste oils, as to owners they represented a perceived high value. * There are currently **no financial incentives in place for PCB holders** and it is expected that holders might wait as long as possible to phase-out and dispose of PCB containing equipment. * Only in the situation that there become available potential (cheaper) land-based export routes for disposal abroad through customs union countries when legislation on PCB transport has been harmonized within the customs Union; or if the hazardous waste facility in Kazakhstan is operational (2018-2020), costs for transport/disposal might be more affordable, even so, they might still be too high for enterprises in Kyrgyzstan. * Based on the project results, it is deemed unlikely that PCB holders will take action to phase out and disposal of PCBs in the immediate future. | Unlikely |
| *Socio-Political*:   * **Frequent Government Changes**: Considering that there do not appear to be sensitive issues or controversies surrounding PCBs, Socio-Political changes are unlikely to have a great impact on this sector. That said, Government changes have happened frequently in Kyrgyzstan in the past, and have proven that they can result in a change in national priorities, as well as changes in legislation (cancellation of orders, delay in approval processes or requests for amendments, and the like), which indirectly might impact priorities and the pending approval of legislation governing PCB and POPs issues. | Moderately Likely |
| *Institutional Framework and Governance:*   * **Regulatory Framework:** Although import/export/use/re-use/trade of PCBs and PCB containing wastes and equipment is now prohibited and PCBs have been classified as hazardous wastes thanks to the project, important technical regulations, in particular the Technical regulations "On electrical equipment" and "On secure maintenance of the electrical equipment and devices" are still pending government approval. It is unlikely that these regulations will be approved soon as the government of Kyrgyzstan has (since 2014) placed a “ban” on the development and approval of new regulations in light of the recent accession of Kyrgyzstan to the Customs Union.Even though this “ban” might be lifted, it is expected that regulatory measures related to more pressing development objectives would be prioritized first, further delaying the approval of the PCB Technical Regulations.   The MoEI has adopted the accompanying “Rules on registration, exploitation and storage of equipment, materials and waste containing PCB” by Order of the Ministry, however this means that PCB holders can adopt these on a voluntary basis. This implies that holders (until approval of the regulations) can continue using PCBs containing equipment, phase-out dates have not yet been mandated, and holders are not obliged to identify, report on or phase-out/dispose of PCB containing equipment.   * **Capacity of PCB experts and national project partners:** Throughout the TE it became clear that project PCB experts will continue to be engaged by project partners on PCB issues even when the project comes to an end. There is sufficient in-country capacity for PCB management. * **Laboratory Capacity**: At the time of the TE, the SES laboratory had submitted its request for accreditation for PCB analysis in oil to the national standards agency. That said, SES requires further capacity building to ensure that results from PCB analysis are of a good quality, which was questioned by the TE. Secondly, the laboratory of SAEPF has not yet properly installed its GC and although some staff have been trained by SES, it is felt that SAEPF staff would not be able to provide good quality PCB analysis. Without further laboratory capacity building, it is feared that capacity built under the project and equipment provided by the project, might not be put to good use or even deteriorate. * **Inventory results:** Inventory results are currently available to the project and SES (see Annex XIV). Furthermore, PCB inventory results should be updated on the website and the latest PCB inventory results should be provided to MoEI and SIETS presented in an easy to understand format. A report summarizing the inventory results at the time of project closure should also be prepared (for easy uptake in the NIP, ensure to provide information on low and high content PCBs). If not, it is likely that all inventory results obtained by the project will be lost. * **Storage and disposal capacity**: The project did not achieve the establishment of a centralized storage facility and PCB containing waste and equipment (out-of-service and in-service) will remain on the premises of the holders under the same conditions as prior to the project. Without approval of the Technical Regulations, it is unlikely that this situation will change. * **Continuity of responsibilities for PCB management at national level**: The Ministry of Energy and Industry will continue to assume the responsibility for PCB issues. It is recommended that the project supports the Ministry in developing a short plan, summarizing its future responsibilities and activities and results that would have to be attained (e.g. identification of interim storage location/sites, approval of Technical Regulations, among else), before a 2nd phase PCB project could be considered. | Unlikely |
| *Environmental:*   * Awareness and capacity on PCB management has been significantly increased, electrical equipment and PCB holders are much better aware of the environmental issues surrounding PCBs, and ~1,000 people have been trained in aspects related to PCB management. This all will benefit the environmentally sound management of PCB containing equipment owned by PCB holders. * Environmental risks could be related to seismic activity and landslides, which might in particular threaten PCB waste storage locations at PCB holders (in particular those that have no taken part in the first inventory, as it is unclear how much PCB waste is present and where it is located). It is for this reason that the MoEI should continue to identify a secure, environmentally risk safe and centralized safeguarding location for those types of waste that cannot be safely stored at holders. | Moderately Likely |

Overall, the evaluation team feels that the sustainability of the project is **Moderately Unlikely (MU)**.

### 

### 3.3.8 Impact

*Impact:* “*Are there indications that the project has contributed to, or enabled progress toward, reduced environmental stress and/or improved ecological status?”*

In order to rate project aspects related to “*impact*” a TE is expected to review whether a project has demonstrated:

a) Verifiable improvements in ecological status;

b) Verifiable reductions in stress on ecological systems; and/or

c) Demonstrated progress towards these impact achievements.

In the case of the Kyrgyzstan PCB Management Project, the project’s impact verifiable through “*improvements in ecological status”* or “*reductions in stress on ecological systems”* has not been tested/assessed as part of the project. The project did not analyze PCB levels before and/or after project activities.

The project did not dispose of PCBs, as such 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. However, the project did reach out to over 250 PCB holders, and resulted in the training of 1,000 personnel and staff to create awareness and capacity in the handling, maintenance and management of PCBs.

Because awareness on PCB has significantly been increased, the likelihood of cross-contamination, spills and improper management has also been significantly reduced, thus reducing the risks to human and environmental health. During field visits to PCB owners, project experts also informed owners on proper safeguarding measures and what to do in case of a spill.

Furthermore, because of import/export/use/re-use/trade of PCBs and PCB containing wastes and equipment is now prohibited and PCBs have been classified as hazardous wastes, in particular the work undertaken by the project to support the inventory has been successful in reducing the disappearance and sale of PCB containing equipment.

In conclusion, the project has “*demonstrated progress towards these impact achievements*”, as such the impact of the project has been evaluated as **Marginally** **Satisfactory (MS)**.

# 4. CONCLUSIONS, RECOMMENDATIONS & LESSONS Learned

MAIN PROJECT RESULTS

The project’s main results include among else:

1. **The official PCB inventory, led by the Ministry of Energy and Industry, included 250 industries and enterprises.** Of those companies 23 companies had available technical documentation on their electrical equipment, and based on a review of this documentation, 11 companies were expected to own equipment and materials potentially contaminated with PCBs.
2. As part of the second phase of the inventory, the project used rapid PCB screening test kits (250) to indicate whether transformers suspected to contain PCBs contained more or less than 50 ppm of PCBs. Based on these rapid tests, 52 transformers (representing 1,315 tonnes of equipment containing 446 transformer oil) were indicated to potentially contain more than 50 ppm of PCBs. Subsequently 52 samples from both operational transformers and transformers already phased out were collected from 11 PCB holders. Samples were analyzed by Gas Chromatography by the laboratory of the State Sanitary and Epidemiological Control Department (SES) of the Ministry of Health. A cross-reference check of seven (7) oil samples was undertaken by a PCB analysis lab in Kazakhstan, following a recommendation from the TE mission. The analyses indicated that these samples contained < 50 ppm of PCBs.
3. The project confirmed the presence of 579 PCB containing capacitors representing 34 tonnes located in two substations. The PCB Holder (NEGK) is ready to transfer the waste for disposal on a voluntary basis.
4. Inventory data on PCBs is publicly available at <http://tailing.in.kg/>.
5. **Demonstrated the unfeasibility of the land/sea based trans-boundary movement of PCB wastes and equipment through neighboring countries and confirmed the only option was to export PCBs by air.**
6. **Resulted in the improvement of the regulatory framework pertaining to PCB management**,through the adoption/approval of regulatory measures prohibiting the import/export/use/re-use/trade of PCBs and PCB containing wastes and equipment and the classification of PCBs as hazardous wastes, while important technical regulations "*On electrical equipment*" and "*On secure maintenance of the electrical equipment and devices*" have been developed and are awaiting government approval.
7. **Trained ~1,000 project stakeholders and beneficiaries on various aspects of the sound management of PCBs** (please refer to Table **14** for additional details). The project organized 27 workshops, information seminars and round tables. During these events 703 stakeholders were trained, of which 46% women and 54% men. In addition, NESK trained 300 staff on the implementation of the “*Rules of management, handling and disposal of the PCBs containing materials, equipment and devices to regulate identification, collection and handling PCBs*”.
8. **Built the capacity of two (2) national laboratories** **in PCB analysis** (Laboratory of the State Sanitary and Epidemiological Control Department (SES) of the Ministry of Health and the Laboratory of the State Agency for Environmental Protection and Forestry – SAEPF). The project provided SES with a Gas Chromatograph and SAEPF with a Gas Chromatograph, as well as standards and re-agents. 14 Laboratory staff were trained by RECETOX, Shimadzu and SES. The project also supported the adoption of the ISTM and GOST standards/methodologies for PCB analysis. SES’ application for national accreditation for PCB oil analysis is under consideration.
9. **Created awareness of decision makers, ministries, regional environmental departments, students, faculty staff and the general public as well as ~ 250 electrical equipment holders on the importance of the sound management of PCBs and potential risks**, through articles (10); TV broadcastings (4); publications (3); booklets (1); press conferences (3); preparation and dissemination of videos (2); and development of a model curriculum and lectures on PCBs for students, PhD students and faculty at 6 faculties/colleges.
10. **PCB and SMC issues were mainstreamed into the following national development related plans and strategies:** National Strategy for the country's Sustainable Development 2013-2017; Programme on the Sound Management of Chemicals (until 2017); Mid-Term Development Programme for the Kyrgyz Republic (2012 – 2014); Ministry of Emergency Situations’, Strategy of integrated safety of population & territories in emergency situations (2020); Ministry of Healthcare, Health Strategy (2012 – 2016).

For additional detailed information on the project’s results and attainment of project objectives kindly refer to *Section 3.3, in particular Table 11*.

In the Tables below are a number of project results presented. The results, which have been presented in these tables, are GEF Tracking Tools indicators and are presented to the GEF upon project closure. The official GEF Tracking Tool as filled out by the Project Management Unit (PMU) has been attached to this report, but not included as one of its Annexes.

Table 19: Selected GEF tracking Tool indicators – *Part I*

|  |  |  |  |
| --- | --- | --- | --- |
| **Indicators** | | **Quantity  ("NK" if unknown)** | **Qualitative comments from the project team or the GEF Agency** |
| PCB baseline[[37]](#footnote-37) inventory | PCB concentrated oils (tons) | 0 | After the TE mission took place, the evaluator recommended to retest a few of the 52 transformer oil samples as there were doubts regarding the accuracy of the laboratory results initially presented. The PCB cross-reference analysis of 7 samples conducted by a laboratory in Kazakhstan confirmed that initial analysis results obtained by SES were accurate. As such it was concluded that all sampled transformers (52) contained PCB levels < 50 ppm. |
| PCB contaminated oils (tons) | 0 | The project used rapid PCB screening test kits to indicate whether transformers contained more or less than 50 ppm of PCBs. Based on these rapid tests, 52 transformers were identified to contain more than 50 ppm of PCBs and were subsequently analyzed by SES to indicate the level of contamination. Test results from SES and a cross-reference laboratory in Kazakhstan, indicated that all sampled 52 transformers contained < 50 ppm of PCBs. |
| PCB capacitors (tons) | 34 tonnes | Based on inventory reports of NESK these capacitors were identified as containing PCBs. They are still in service in two substations. One is close to Issy-kul lake, which was visited during the TE mission and the other one is close to the Uzbekistan border. Access to substations is very much restricted. |
| PCB capacitors | 597 | Same remark as above |
| PCB contaminated equipment and wastes (tons) | 34 | The total amount of PCB contaminated equipment and wastes identified by the project is the 34 tonnes of PCB containing capacitors. |

Table 20: Selected GEF tracking Tool indicators – *Part II*

|  |  |  |
| --- | --- | --- |
| Indicators | Status[[38]](#footnote-38) | Comments |
| Environmentally sound management5 (ESM) of PCBs in place. | 1 | * A long-term PCB phase-out plan for the monitoring and phase-out of PCB containing equipment was developed, but never adopted. Some of its recommendations have been taken up in the National Strategy for the Sound Management of Chemicals and the National Strategy for Sustainable Development – See also Table 17. |
| Legislative and regulatory measures in place for environmentally sound management of POPs, and for the sound management of chemicals in general | 1 & 3[[39]](#footnote-39) | Certain legislative/regulatory measures have been adopted and are being enforced while others have been drafted but have not yet been adopted.  *Approved*:   * Amendment to “On sanitary – epidemiological control" adopted by Governmental Decree (No. 329 from 6 June, 2013), which regulates export, import and transit of POPs including PCBs; holders of wastes including PCBs and other POPs are obligated to keep the stockpiles at the places of production until further options are identified. * Amendments made to ““Collection of charges for improper PCB handling and preservation” for payment for pollution of the environment by PCBs. Adopted by Governmental Decree No. 559 on 19 September, 2011. * Amendments made to Governmental Decree “*On approval of classification of hazardous wastes and methodical recommendations on hazardous class definition*” dating from 15 January 2010 No. 9 to ensure that re-use of PCB equipment is prohibited. Adopted by Government Decree No. 877 on 31 December 2012. * “Rules on registration, exploitation and storage of equipment, materials and waste containing PCB” adopted by Order of Ministry of Energy and Industry No. 138 from 28 August, 2014   *Pending approval:*   * Technical regulations "*On electrical equipment*" and "*On secure maintenance of the electrical equipment and devices*" drafted (pending Government approval). * “Rules of management, handling and disposal of the PCBs containing materials, equipment and devices to regulate identification, collection and handling PCBs” are pending government approval. * Amendments made to “on production and consumption of wastes” to include PCB (pending government approval). |
| Professional Training | ~ 1,100 people trained | See Table 13 for an overview of the type of training provided as part of the project and the number of participants per event. |

Table 21: Selected GEF tracking Tool indicators – *Part III*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Indicators | Quantity  (tons) | | Cost6  (US$ / ton) | Comments |
| Project target | Achieved to date |
| PCB concentrated oils disposed of and average cost | N/A | N/A | N/A | No PCB disposal was achieved under the project. |
| PCB capacitors disposed of and average cost | N/A | N/A | N/A | No PCB disposal was achieved under the project. |
| PCB contaminated equipment and wastes disposed of and average cost | N/A | N/A | N/A | No PCB disposal was achieved under the project. |
| PCB oils and PCB contaminated equipment under safe storage and average cost | N/A | N/A | N/A | The project partners and stakeholders were unsuccessful in establishing a protected centralized PCB storage facility. PCB containing equipment remains in the same location as before the project. |

Immediate Recommendations

* **Recommendation #1: Once the project has been operationally closed, sent 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$) and in-kind support (40,000 US$), see also expenditure Table 9 in section 3.2.4). Furthermore state the intentions of the Government of Kyrgyzstan and its partners to develop a second phase PCB project and that it wishes that unspent funds would be retained for such a project, while in the mean time the Government and its partners will continue working on advancing the baseline for a future PCB project.
* **Recommendation #2:** **Ensure all project related materials are easily accessible to the public/project stakeholders.** Before the project comes to an end, the project should ensure that all regulatory documents prepared by the project (adopted and drafted), as well as any other materials prepared by the project, such as (technical) guidelines, awareness raising materials, videos, publications and booklets, tools and the like are posted on the <http://www.caresd.net> website (or any other publicly available website), to ensure that project related documentation remains easily accessible to project stakeholders in the future, even though the project comes to an end.
* **Recommendation #3: Ensure that the latest PCB inventory results are made available on-line (**[**http://tailing.in.kg/**](http://tailing.in.kg/)**) and handed over to MoEI, SIETS, SAEPF and the National Statistics Committee of the Kyrgyz Republic** in both soft and hard copy to ensure that results can be tracked periodically as per national statistical reporting and data management; can be used in future inspections when technical regulations have been approved; and can be reported to the Stockholm Convention when necessary. Ensure that MoEI and SIETS have access to the database and that they make a commitment to manage the system in the future (e.g. by signing an MoU).
* **Recommendation #4: Prepare a report summarizing the inventory results at the time of project closure** for easy uptake in the NIP update, ensure to provide information on low and high content PCBs, their locations, their owners, tonnages, type, etc.
* **Recommendation #5: Prepare a results and lessons-learned report**. The Kyrgyzstan PCB management project has encountered and overcome many project implementation challenges which are also faced by other land-locked and Central Asian countries. It is therefore very important that project results, lessons-learned and recommendations would be captured in a high-quality end-of-project report.
* **Recommendation #6: Use some of the remaining project funds to retest a limited number (~ 5, in particular those which are expected to have higher PCB levels) of the PCB oil samples at an accredited laboratory** (possibly in Kazakhstan as it disposes of several) to verify the quality of PCB analysis conducted by SES. If it turns out SES analysis results were too far off, the project should consider retesting all the samples. **Note**: Recommendation has already been implemented.

Recommendations TO ADDRESS PRIOR to a 2nd phase PCB project

* **Recommendation #7: National partners have to continue demonstrating willingness for PCB management** (MoEI to take the lead, but with involvement from NESK, SAEPF, UNDP) 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 an application to the GEF for a second phase PCB project, the GEF might not consider funding a second-phase.Continued support for approval of technical regulations, could potentially be provided by NESK, UNDP and national partners, while piggy backing on other environment related programmes in order to keep the ball rolling.
* **Recommendation #8: Continue building capacity of Laboratories.** If MoH, SAEPF and the Government will not continue to advance the capacity and expertise of the two (2) laboratories supported by the project (SES and SAEPF) the capacity built by the project will soon be lost. It would be recommended that SES and SAEPF, with UNDP assistance or another partner, apply for support from the RECETOX/UNDP Czech Republic Fund for additional capacity building, which appears to be critical. This capacity building should include support to achieveint. accreditation for SES (responsibility SES) and building basic analytical capacity of SAEPF as well as ensure proper installation of the equipment provided by the project (responsibility SAEPF). It should also be mentioned that SAEPF management should commit to honoring its co-financing pledges and allocate funding to refurbish a laboratory the soonest so that the GC provided by the project can be properly installed and put to use.
* **Recommendation #9: Continue the identification of potential PCB interim storage sites.** If the process led by the UNEP/FAO/MoA obsolete POPs pesticide projects on the identification and selection of potential locations for interim POPs pesticide storage facilities proves successful, this approach should also be applied by the MoEI to identify an interim storage facility for PCBs. Efforts on the identification of an interim storage site should be re-launched once the FAO/UNEP approach has proven successful, under the lead of MoEI and SAEPF. Ensure that (a) interim storage site(s) have been identified prior to launching a second phase PCB project.
* **Recommendation #10:** A 2nd phase PCB project should/would only focus on disposal and destruction abroad. Therefore before a proposal for a second phase PCB project should be submitted, the following needs to be put in place by the Government of Kyrgyzstan to show their commitment to the sound management of PCBs: 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 or the hazardous waste facility in Kazakhstan is operational. ***Critical*:** Monitor closely the realization of the Kazakhstan hazardous waste facility (2018-2020) 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 has been harmonized, to help indicate a time when disposal/transportation would be significantly cheaper.

***Note*:** Until the above situation has been achieved, it might not be worthwhile to submit a second phase PCB disposal project, as the project’s baseline would not have significantly changed and no progress could be reported to the GEF/donor.

* **Recommendation #11**: For future projects is it recommended that TORs for consultants are 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 rather than a short time and could result in more loyalty and time commitment. It would also free up the time of the PC and allow him/her to technically support the project rather than continuously being tied up in operational procedures.

Lessons-Learned

* **Lesson-Learned: The single largest challenge of the project has been 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$/tonne as per experiences from other PCB management project in CIS countries. Instead, in the situation that Kyrgyzstan had been able to export its PCB wastes, via Kazakhstan to France for disposal, the ultimate costs would have been in the range of 13,300 US$/tonne, in case it would have exported PCB wastes directly to France, this would have increased to 18,900 US$/tonne. The project simply did not have sufficient funds available, and cost-effectiveness might not have been acceptable to the donor. For future projects related to hazardous waste disposal in Central Asia and landlocked countries, these aspects have to be taken better into consideration.
* **Lesson-Learned: One the most significant challenges to the project has been the frequent changes of Government.** Not only in terms of changes made to the 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. Depending on who assumed the PD role at a given time, or represented a certain partner, and his/her commitment to the project, had a direct influence on the commitment of that partner to help advance the project’s implementation. Except for going along with the changes, there is not much a project can do, except to try to continue building project ownership and relationships with project partners.
* **Lesson-Learned: Prior to project start – conduct an in-depth assessment of capacity of all project partners** and determine their willingness (staff time, co-financing) to actively participate in the project as well as their capacity to achieve the results that they will become responsible for. Clearly set responsibilities and determine roles and hold partners accountable throughout project implementation.
* **Lesson-Learned:** A more thorough analysis of the existing legislation during the project’s development and verifying the genuine interests of the government in developing and approving legislation would have been helpful before responsibilities were assigned to certain partners to work on development and approval of regulatory measures.
* **Lesson-Learned:** Establish a dynamic working group in which all relevant project partners are represented. For example establish 1) A technical working group, which meets on a weekly basis and for which monthly targets are set and among which meeting minutes are shared; and 2) A political high level working group to ensure buy-in from high-level decision makers representing the project’s partners and project ownership that goes beyond the technical staff of the project partners. Involve all critical partners, in particular the Ministry of Justice, as well as large PCB holders, as later on that will save time in getting regulatory measures cleared and approved. Ensure project partners also participate in field visits.
* **Lessons-Learned:** The inventory process should preferably be concluded far in advance of the launch of the international tender for disposal.However,in the case of Kyrgyzstan the 2nd phase inventory results became only available in February 2015, due to various challenges encountered. In the mean time – to safe time, to determine whether the project budget did contain sufficient remaining funds for disposal, and to explore the option to merge PCB wastes with PCB wastes from Kazakhstan – the project launched an open ended tender for various scenarios (direct export by plane to France, export via Kazakhstan to France) and various amounts of PCB wastes (20, 34 and 50 tonnes).
* **Lesson-Learned:** Preferably,laboratory capacity (staff, equipment) would be in place, before the project starts in order to ensure a speedy inventory process and allow for cross-referencing of inventory results. As part of the Kyrgyzstan PCB project a gas chromatograph was installed at SES in 2012, after which capacity building needed to take place to ensure staff was able to analyze PCB levels in oils. This took a significant amount of time and in turn delayed other project activities.
* **Lesson-Learned:** 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 those departments in government that have not undertaken this type of work before, to get stuck. It is also a great learning experience for Chemical Convention Focal Points to work closely with a disposal company and learn how trans-boundary clearance procedures work.
* **Lesson-Learned:** In the situation that there is a lot of uncertainty about PCB inventory results, it might be worthwhile to either i) Develop/Implement a small-size project (MSP) that only focuses on conducting a detailed PCB inventory and supporting regulatory and policy review and strengthening, after which a follow-up PCB project (MSP or FSP) could exclusively focus on disposing of the PCB quantities identified, or alternatively ii) Develop/Implement a FSP project that focuses on undertaking an inventory during the project’s first two (2) 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.
* **Lesson-Learned:** 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 component depending heavily on co-financing might be cancelled. In the situation when during project development it is felt that a particular critical co-financing commitment is uncertain, try to find other resources to fund this component prior to project start.
* **Lesson-Learned:** 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.

Conclusions

The project has been evaluated against the GEF and UNDP evaluation criteria, which are the following: **Relevance** - **Relevant** (Section 3.3.2), **Effectiveness** – **Marginally Unsatisfactory** (Section 3.3.3), **Efficiency** – **Marginally Unsatisfactory** (Section 3.3.3), **Impact** – **Marginally Satisfactory** (Section 3.3.8) and **Sustainability** – **Marginally Unlikely** (Section 3.3.7). Additional information on why these ratings were provided can be found in the sections listed.

In terms of conclusions, going beyond the evaluations findings and identifying underlying priority and issues, the evaluator concludes the following:

Table 22: Project Conclusions

|  |  |
| --- | --- |
| Evaluation Criterion | CONCLUSION |
| Relevance (R) | The project was considered to be Relevant (R) towards 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*. Furthermore, most of the national PCB priorities as taken up in Kyrgyzstan’s National Implementation Plan (NIP), the project aimed to address.  The project was also 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 programmes in the Kyrgyz Republic, and related priorities have been taken up in the **Mid-Term Development Programme for the Kyrgyz Republic (2012 – 2014)** and the **National Strategy for the country's Sustainable Development 2013-2017**.  As such, work undertaken within the scope of the project under evaluation is deemed **Relevant (R)** in light of broader national development objectives. |
| Effectiveness (S) | The project’s objective: “*Minimizing environmental and health risks associated with PCBs though strengthening* ***technical*** *and* ***regulatory*** *capacity for the environmentally sound management and disposal of PCBs in Kyrgyzstan*” has been partially achieved, hence **Effectiveness** has been rated as **Marginally Unsatisfactory (MU)**.  The project aimed to achieve this project objective through five (5) main outcomes, which (summarized) entailed the following: 1a) **Conduct a PCB inventory**; 1b) **Raise awareness of stakeholders**; 2) **Develop and implement regulatory measures**; 3) **Manage PCBs on a long term basis**; and 4) **Disposal of priority PCB stockpiles**.  **Inventory**: The project was built on results from the NIP PCB inventory which proved underestimated and in turn required a lot of additional time, effort and funding from the project to establish a better baseline, during the PPG phase as well as during project implementation. The April 2010 Kyrgyz revolution, which escalated in the South of the country, severely delayed the project (as it was followed by numerous government changes) and in particular inventory activities, as it prevented access to sites in the south of the country. Nevertheless the project was able to eventually reach out to ~ 250 potential holders, identified 52 transformers that potentially contained PCBs and confirmed by laboratory analysis that PCB concentrations were less than 50 ppm, as well as identified 579 PCB containing capacitors – 34 tonnes (NESK).  The inventory took a considerable long time (2010 – Feb 2015) and mostly surveyed government owned entities[[40]](#footnote-40), the majority of private and semi-private entities did not participate in the inventory because no regulatory requirements to provide information on and access to potential PCB containing equipment and wastes were in place).  Additional delays in completing the inventory seemed to be the time it took the project to convince potential PCB holders to grant access to allow for PCB oil sampling, as well as some technical failure of the GC owned by SES, which required repairs by the distributor. At the time of the TE, inventory results were still inconclusive even though the analysis results from the 2nd phase of the inventory results had been presented by SES in February 2015. At the request of the evaluator, a number of samples (7) were retested in Kazakhstan to provide cross-reference results and confirm the findings – and the way in which these findings were presented – of the SES laboratory.  Overall it was felt by the Evaluator that the project took too long to complete the inventory. The inventory being delayed so much impeded the project’s decision making (e.g. the launch of the international bidding process for the packing, storage, transport and disposal of PCB wastes was undertaken without having the final inventory results at hand – and were thus based on identified and confirmed PCB quantities at that time, as well as a number of estimates – 20 tons (estimate); 34 tons (confirmed), 20 tons and 50 tons (estimate)). This is not common practice for a PCB project as normally a bidding process for export and disposal is launched after the results of the inventory results have been presented, as it allows for a better estimate of the waste tonnage to be disposed of.  **Engagement of stakeholders**: One of the main challenges encountered by the project was to i) ensure inter-agency coordination between relevant ministries and agencies; and ii) obtain the commitment of PCB holders to activity participate in the project. The project spent an enormous amount of time to ensure that line ministries were communicating/liaising among each other to help advance the objectives and activities of the project. The numerous government changes throughout the project’s duration and the confusion at the start of the project regarding implementation partner arrangements made this task even harder. At the end of the project’s implementation, the project met with ministries on a weekly basis and held regular Project Board meetings.  The engagement of PCB holders was even more challenging. The precarious financial situation in which the country as well as PCB holders found themselves throughout project preparation, significantly inhibited project progress and commitment from the holders’ side. In other PCB projects, with a similar budget (e.g. Jordan), most project funding was spent on the inventory (only 160,000 US$ for the disposal of 50 tonnes) but in Jordan PCB holders were very willing to participate in the inventory, grant project access to equipment and when PCBs were identified, hand-over such equipment free-of-charge to the project. This was not the case in Kyrgyzstan, where due to the poor economic conditions, holders saw a lot of value in PCB containing equipment and wanted to run such equipment as long as possible to avoid the costs for replacement. Because there was no legislation in place, such holders were not incentivized to participate in the project or phase-out such equipment. The attitude of holders towards equipment significantly delayed the execution of the 1st and 2nd phase of the inventories.  **Awareness raising**: In total, the project organized 33 workshops, information seminars and round tables. During these events 810 stakeholders were trained. In addition, NESK trained 300 of its staff on the implementation of the “*Rules of management, handling and disposal of the PCBs containing materials, equipment and devices to regulate identification, collection and handling PCBs*.” As a result of this training, which was complemented by the release of news paper articles, TV programs, publications, booklets and press conferences (mostly targeting the general public), the risk from PCBs has been reduced as PCB holders, government entities, laboratories and the general public have gained awareness on the risks posed by PCBs. A large portion of PCB holders has received training on the sound management of PCBs. Personnel who come in close contact with PCB containing wastes and equipment are better informed and capacitated on how to safely handle and maintain these, thus safeguarding their own health, that of others and the environment.  **Regulatory measures**: A major challenge faced by the project throughout its implementation was the non-approval of the Technical Regulations on PCB Management (drafted by the project), which would allow MoEI and other partners to obtain inventory information on PCB equipment and wastes held by private and semi-private enterprises and would make a PCB inventory compulsory and set PCB phase-out dates for all PCB holders. The fact that these technical regulations have not been approved is in part due to the many government changes which occurred throughout the project’s implementation, and the legal reform processes which followed as a result of these, which sometimes required the project to make changes to already drafted/submitted regulatory pieces, or which occasionally resulted in regulatory measures already in place and critical for PCB management, being cancelled (e.g. order #1, MAC values, etc.). As has been mentioned in the TE report, the project did not involve the Ministry of Justice in its working group on regulatory instruments, which might, in retrospect, have facilitated the approval of developed regulatory drafts. Finally the recent accession of Kyrgyzstan to the Customs Union (12 July 2015) resulted in a ban on the approval of new regulations, which has been in place since August/September 2014. As a result of Kyrgyzstan’s accession to the CU, most existing laws lost effect and required to be adjusted to the CU’s standards and norms. As a result, the Technical Regulations had not been approved at the time of the TE[[41]](#footnote-41) and the evaluator felt that these regulations would not be approved any time soon. This negatively impacts the sustainability of long-term PCB management and phase-out.  **Manage PCBs on a long-term basis**: The project developed a long-term PCB phase-out plan for the monitoring and phase-out of PCB containing equipment, but the plan was never adopted (most likely because there was a lack of national financing for its implementation, which often is the reason in Kyrgyzstan to not approve of a plan), although some of its recommendations have been taken up in the National Strategy for the Sound Management of Chemicals and the National Strategy for Sustainable Development.  Capacity of the SES and the SAEPF laboratory was built through the provision of national and international training (with substantial support from RECETOX) and the provision of equipment and laboratory disposables (2 Gas Chromatographs, reagents, standards, etc.). Support to SAEPF was initially not foreseen as part of the project, and considering the fact that at the time of the TE the GC has not yet been properly installed (awaiting the refurbishment of a laboratory room to house the GC which will be provided as SAEPF co-financing) and the assumption that overall capacity for SAEPF to conduct quality PCB analysis on its own appeared not to be sufficient, makes for the conclusion that laboratory support to SAEPF might not have been critical.  With respect to SES laboratory capacity the evaluation team felt that there remain gaps, however if the MoH and SES continue to commit to completing the national accreditation process for PCB analysis and continue to work with an international reference laboratory programme to prepare for international accreditation, these gaps might be addressed and SES would be able to provide quality PCB analysis in the future.  In terms of contaminated sites management, the project has provided training which included the identification and assessment of POPs contaminated sites, as well as analytical aspects. However in reality the project has not worked on the identification and analysis of contaminated sites.  **Disposal of priority PCB stockpiles**: At the time of the TE, the project had identified a potential site for interim storage of PCB wastes in the sanitary zone assigned by the MoEI. However it was deemed unlikely by the TE team that after project closure a storage facility would actually be built there in the near future, due to various reasons, which have been discussed in more detail in the TE report. The main reasons for (a) storage facility(ies) not being in place at the end of the project are due to the many government changes which initially led to MoEI co-financing not materializing (although this was rectified later during the project’s implementation through a renewed commitment of the MoEI). A second reason is that in general it has been very challenging in Kyrgyzstan to identify sites and facilities for the (interim) storage of hazardous wastes (e.g. POPs pesticides). For example, regional POPs pesticides projects (FAO, UNEP, World Bank) have been struggling in a similar way to identify suitable locations that would be able to obtain the right permits and approval for hazardous waste storage.  In conclusion, considering that no cost-effective export routes for PCBs were identified during the project (see below), it might be for the best that for now PCB containing equipment (all on-line) remains with its owners who have been trained on PCB management and equipment maintenance, rather than being removed from the grid and subsequently stored in a centralized facility for which the Government might not have the necessary financing to manage it in accordance with the requirements of the Basel and Stockholm Conventions.  With respect to the actual destruction/elimination of PCBs, the project identified only one feasible option for PCB export, which was via air (the Kyrgyzstan PCB project faced the same challenges as the Kazakhstan PCB project, which exported the country’s high content PCB oils and capacitors by plane, which came to approximately 7,000 US/tonne). During the project’s development phase, costs for export/transport and disposal were estimated at 1,000 – 2,000 US$/tonne, however ultimately costs for export (by air) turned out to be in the range of 13,300 – 18,900 US$/tonne. At the time the international bidding process for export/disposal was concluded (Nov 2014) the project did no longer have sufficient funds available to cover the export and disposal of the 34 tonnes of confirmed PCB containing equipment and decided that anyways the “cost effectiveness” for PCB disposal was too high to consider it a feasible and acceptable solution (also in light of the disposal of stockpiles that might have to be disposed in the future).  In conclusion, it was felt that the project was unfortunate in this sense, it found itself – like the PCB management project in Kazakhstan – in the ill-fated situation that PCB wastes could not be exported by land based routes (In comparison, a PCB project in Jordan with a similar budget to the Kyrgyzstan project, only had to spent 160,000 US$ on the disposal of 50 tonnes of PCBs, 3,200 US$/tonne). During the project’s development these restrictions had not been in place and therefore the project had assumed export by land and prepared a project budget in line with those assumptions. Kazakhstan was able to benefit from economies of scale (filling a plane to the maximum capacity), while in the case of Kyrgyzstan not sufficient high content PCB wastes had been identified, which made the costs per tonne even higher.  In conclusion, considering PCB wastes are still in their original locations *the* *environmental and health risks associated with PCBs though the strengthening of* ***technical*** *and* ***regulatory*** *capacity for the environmentally sound management and disposal of PCBs in Kyrgyzstan* cannot be said to have been **minimized**. However, as a result of the project, the risk from PCBs has been **reduced** as PCB holders, government entities and laboratories have gained awareness on the risks posed by PCBs and a large potion of PCB holders has received training on the sound management of PCBs. Personnel who come in close contact with PCB containing wastes and equipment are better informed and capacitated on how to safely handle and maintain these, thus safeguarding their own health, that of others and the environment.  It is for the reasons mentioned above that the project’s **Effectiveness** is rated as **Marginally Unsatisfactory (MU)**. |
| Efficiency (MS) | Project activities were implemented in such a way that cost-effectiveness was aimed for throughout project implementation, the most common way for the project to do this was making use of national and international bidding procedures for the procurement of services and goods.  It should be mentioned though that the project seemed to have entered into too many contracts (individual contractors (44) and institutions (19)) to undertake and support various project activities. Considering the sometimes lengthy procedures such recruitment and procurement procedures can result in, it is felt that a lot of effort of the project team was lost on managing these processes, rather than focusing on the technical aspects of the implementation of project activities, some of which could have been undertaken by the project team itself, if they would have had the time for that, and would not have been tied up to this extent in operational procedures. Throughout its duration, due to high turn-over, the project also had 4 project coordinators. The project lost valuable time hiring new project managers and bringing them up to speed.  As the project was extended twice (in total by a year), the project ran out of Project Management Costs (PMCs) which was only budgeted to cover the salary costs of the Project Coordinator and Project Assistant for four (4) years and not for five (5). The project resolved this by sharing (twice) the PC and PA with other GEF financed POPs projects, which allowed for continued project management oversight, without the need to tap into the budgets of other project components.  The project spent funding on the procurement of a GC for the SAEPF, an activity that was not taken up in the project document but was decided upon during a PB meeting in September 2014 following a strong request from SAEPF. Considering at the end of the project the GC had not been installed and SAEPF required a lot more capacity building to be able to undertake quality PCB analysis and function as a reference laboratory for SES, the suggestion could be made that this funding should not have been spent as it did not meet the initial expectations of the PB and was not foreseen as part of the project. It is also suggested that the decision to spend this funding should have awaited the outcomes of the international PCB tender before allocating these funds to the purchase of a GC.  The fact that the project did not have sufficient funds to cover disposal of PCBs, on the one hand avoided it becoming the project with the lowest costs-efficiency for PCB disposal world wide (13,300 – 18,900 US$/tonne as compared to 2,000 – 3,000 US$/tonne on average), but by not achieving disposal, relocation or improved storage for PCBs – the project also ended up with a very low cost-efficiency as no significant Global Environmental Benefits (GEB) were achieved, but the majority of project funds were spent (81%). It could also be argued that in order to dispose of the identified high content PCB wastes, additional co-financing could have been leveraged from the holder and government, although this would have been unlikely to materialize because of the precarious financial situation in which the country finds itself.  In conclusion, the project’s efficiency has been rated as **Unsatisfactory (U)** as per the reasons presented above. However the evaluator is pleased to point out that the project took a reasonable decision to return remaining project funds (~ 160,000 US$) to the GEF. |
| Impact (S) | High content PCB containing equipment (34 tonnes of PCB capacitors owned by NESK) remain in their original location (in service), as such the situation has not changed as compared to the situation at project start.  However, the project did reach out to over 250 PCB holders, and resulted in the training of 1,000 personnel and staff to create awareness and capacity in the handling, maintenance and management of PCBs. Because awareness on PCBs has significantly been increased, the likelihood of cross-contamination, spills and improper management has also been significantly reduced, thus reducing the risks to human and environmental health. During field visits to PCB owners, project experts also informed owners on proper safeguarding measures and what to do in case of a spill. Because import/export/use/re-use/trade of PCBs and PCB containing wastes and equipment is now prohibited and PCBs have been classified as hazardous wastes, in combination with the work undertaken by the project to support the inventory, has stopped (to the knowledge of the project) the disappearance and sale of PCB containing equipment.  There is thus a reduced likelihood of PCBs entering the local and global environment. However, supporting legislation has to be approved and endorsed the soonest, as the safeguarding of PCB stockpiles is currently not guaranteed.  In conclusion, the project has “*demonstrated progress towards these impact achievements*”, as such the impact of the project has been evaluated as **Marginally** **Satisfactory (MS)**. |
| **Sustainability (L)** | The evaluation rated the various aspects of Sustainability (Financial Resources; Socio-Political; Institutional Framework & Governance; and Environmental) and concluded that the overall Sustainability was deemed **Moderately Unlikely (MU)**.  **Financial Resources**: 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/willing to cover the costs to dispose of its PCB stockpiles.  In terms of **Socio-Political** aspects, government changes in the past have proven that they can result in a change of national priorities, as well as changes in legislation (cancellation of orders, delay in approval processes or requests for amendments, and the like), which indirectly might impact PCB related priorities and the pending approval of legislation governing PCB and POPs issues in the future.  Regarding **Institutional Framework & Governance** aspects it should be mentioned that although import/export/use/re-use/trade of PCBs and PCB containing wastes and equipment is now prohibited and PCBs have been classified as hazardous wastes thanks to the project, important technical regulations, in particular the Technical Regulations "On electrical equipment" and "On secure maintenance of the electrical equipment and devices" are still pending government approval. It is unlikely that these regulations will be approved soon. However, without these Technical Regulations in place, PCB holders are not required to undertake inventories, and phase-out their PCB containing equipment.  In terms of capacity of laboratories, the evaluation concluded that the two laboratories (SES and SAEPF) have to work hard to continue to improve their capacity for PCB analysis if not capacity built by the project might soon be lost due to high staff turnover. Inventory results need to be updated on the website and that the latest PCB inventory results should be shared with MoEI and SIETS presented in an easy to understand format, so that these results remain easily accessible to all stakeholders.  **Environmental**: Awareness and capacity on PCB management has been significantly increased; PCB holders are much better aware of the environmental issues surrounding PCBs, and ~1,000 people have been trained in aspects related to PCB management. This all will benefit the future environmentally sound management of PCB containing equipment owned by PCB holders.  Future environmental risks could be related to seismic activity and landslides, which might in particular impact waste storage locations at PCB holders (in particular those that have no taken part in the first inventory, as it is unclear how much PCB waste is present, whether it concerns high content PCB oils, where it is located, etc.). It is for this reason that the MoEI and its partners should continue to identify a secure, environmentally risk safe and centralized safeguarding location for those PCB wastes that cannot be safely stored at holders. |

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# ANNEX I: TERMINAL EVALUATION TERMS OF REFERENCE

**GLOBAL ENVIRONMENT FACILITY**

**UNITED NATIONS DEVELOPMENT PROGRAMME**

**Terms of Reference**

**for TERMINAL Evaluation:**

**Project Title**: “Management and Disposal of PCBs in Kyrgyzstan”

**Functional Title:** International Consultant for Terminal Evaluation

**Duration:** Estimated 20 working days during June 2015, including field mission to Kyrgyzstan

**Terms of Payment:** Lump sum payable upon satisfactory completion and approval by UNDP of all deliverables, including the Evaluation Report

**Duty station:** Home based with a week mission to Bishkek(5 working days)

**Terminal Evaluation Terms of Reference**

INTRODUCTION

In accordance with UNDP and GEF M&E policies and procedures, all full and medium-sized UNDP support GEF financed projects are required to undergo a terminal evaluation upon completion of implementation. These terms of reference (TOR) sets out the expectations for a Terminal Evaluation (TE) of “Management and Disposal of PCBs in Kyrgyzstan” Project (PIMS #4101).

The essentials of the project to be evaluated are as follows:

Project Summary Table

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Project Title: | ”Management and Disposal of PCBs in Kyrgyzstan” | | | | |
| GEF Project ID:  UNDP GEF Project ID (PIMS): | | #3528  #4101 |  | at endorsement (Million US$) | at completion (Million US$) |
| Atlas award ID:  Atlas project ID: | | 00058537  00072737 | GEF financing: | 0.950 | 0.950 |
| Country: | | Kyrgyzstan | IA/EA own: | 0.115 | 0.75 (according to CDRs) |
| Region: | | ECIS | Government: | 0.270 | TBC |
| Focal Area: | | POPs | Other: | 0.16 | TBC |
| FA Objectives, (OP/SP): | | SP-1, SP-2 | Total co-financing: | 1.351 | 1.025 |
| Executing Agency: | | UNDP | Total Project Cost: | 1.351 | 1.025 |
| Other Partners involved: | | The Ministry of Energy and Industry of the Kyrgyz Republic and the State Agency for  Environment Protection and Forestry under the Government of the Kyrgyz Republic | ProDoc Signature (date project began): | | 19 May 2010 |
| (Operational) Closing Date: | Proposed:  30 June 2013 | Actual:  30 June 2015 |

Objective and Scope

The TE will be conducted according to the guidance, rules and procedures established by UNDP and GEF as reflected in the UNDP Evaluation Guidance for GEF Financed Projects, in the GEF Monitoring and Evaluation policy: <http://www.thegef.org/gef/sites/thegef.org/files/documents/ME_Policy_2010.pdf> and guidelines for conducting evaluations: www.thegef.org/gef/node/1905; as well as the UNDP Monitoring and Evaluation Policy: http://web.undp.org/evaluation/policy.htm.

The objectives of the evaluation are to assess the achievement of project results, and to draw lessons that can both improve the sustainability of benefits from this project, and aid in the overall enhancement of UNDP programming.

The project aims at minimizing environmental and health risks associated with the PCBs through strengthening technical and regulatory capacity for the environmentally sound management and disposal of the PCBs in Kyrgyzstan by:

Output 1(а): Comprehensive identification of PCBs in the country including in-service electrical equipment, PCB stockpiles/ wastes and potentially PCB contaminated sites maintained

*Revised Indicators and Targets for Project End Date (2011):*

* Detailed inventory of PCB containing and contaminated equipment in service, existing PCB waste stockpiles and PCB contaminated sites in place in 2012.
* Data management and mapping system operational and used for reporting in 2012.
* Supply of 250 screening test kits and 4 portable analytical units with 10 personnel trained in their use by 2012.
* Technical instructions for identification, sampling, maintenance, storage and disposal of PCB containing equipment in service and out of operation are in place in 2012.

Output 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.

*Revised Indicators and Targets for Project End Date (2011):*

* Publically accessible information on PCBs and their management including: i) a maintained official website; ii) distributed brochures; iii) media exposure (two annual campaigns during the project implementation); iv) information events (two during the project implementation).
* Training and information seminars on chemicals management including PCBs for relevant government agencies, the academic community, affected communities, NGOs and holders of PCBs (4 events during the project).

Outcome 2: Development and implementation of priority regulatory measures to control the import/export, report, management and ultimate elimination of PCBs. Development and implementation of priority regulatory measure

*Revised Indicators and Targets for Project End Date (2011):*

* Normative documents requiring registration, labeling and status reporting of potential all PCB and PCB containing materials in use in 2012.
* The classification has already been adopted and approved by the government.
* Establishment of MACs for PCBs in environmental media, consistent with international standards in 2012.
* Enactment of legal ban on new use, re- sue, trade, import and export of PCBs and PCB contaminated equipment and materials 2013.
* Legal measures allowing unrestricted regulatory access to information and locations that may have PCBs (wastes, stockpiles, PCB containing equipment and site contamination) in 2012

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

*Revised Indicators and Targets for Project End Date (2011):*

* Basic national analytical capacity to analyze for PCBs operational with upgraded equipment installed and trained personnel in place (10 persons) by 2013.
* Strategy and plan for pre-treatment and disposal of PCB stockpiles and wastes in place in 2012.

Outcome 4: Sustainable capacity to capture, package and securely store PCB stockpiles/ wastes and ESM disposal of priority stockpiles in accordance with environmental requirements

*Revised Indicators and Targets for Project End Date (2011):*

* Secure storage capacity for PCB stockpiles and wastes at major holders’ sites and central sites (orphan material and equipment from sensitive locations) by 2013.
* Trained and equipped service providers capable of undertaking packaging, transportation and residual contamination cleanup for PCB wastes including training of staff of 30 by 2013.

The Project has primary results summarized below:

* The awareness of PCB holders is increased of PCB’s negative impact on health and environment;
* Data base of PCB containing equipment put in place through analytical way;
* The regulatory base for management of PCB as chemical waste is improved. PCB issues are incorporated into the National Strategy for Sustainable Chemicals Management (2014-2017);
* Responsibility for appropriate management of PCB equipment is established;
* Conditions for identification of PCB concentration in oil, soil, water and air are in place. The methodology of standards on definition of PCBs is worked out and accepted. 34 tons of PCB contaminated equipment and oil is identified through analytical way – lab testing. The PCB Holder (NEGK) is ready to transfer the waste for further disposal on a voluntary basis, as a first pilot disposal activity;
* 255 enterprises with substations across the country undergone inventory, as a result additional quantity of PCB is identified and - 50 samples with potential PCBs were tested using the gas chromatography and around 21 tons of PCB concentrated oil were confirmed with allowable ppm;

Evaluation approach and method

An overall approach and method[[42]](#footnote-42) for conducting project terminal evaluations of UNDP supported GEF financed projects have been developed over time. The evaluator is expected to frame the evaluation effort using the criteria of **relevance, effectiveness, efficiency, sustainability, and impact,** as defined and explained in the UNDP Guidance for Conducting Terminal Evaluations of UNDP-supported, GEF-financed Projects. A set of questions covering each of these criteria have been drafted and are included with this TOR (*see* [*Annex C*](#_TOR_Annex_C:)). The evaluator is expected to amend, complete and submit this matrix as part of an evaluation inception report, and shall include it as an annex to the final report.

The evaluation must provide evidence‐based information that is credible, reliable and useful. The evaluator is expected to follow a participatory and consultative approach ensuring close engagement with government counterparts, in particular the GEF operational focal point, UNDP Country Office, project team, UNDP GEF Technical Adviser based in the region and key stakeholders. Interviews will be held with the following organizations and individuals at a minimum:

Key stakeholders:

* Ministry of Energy and Industry of the KR;
* State Agency on Environment Protection and Forestry;
* The Ministry of Health and its Department of Sanitation and Epidemiology,
* PCB holders (NEGK and others),
* UNDP “Environment for Sustainable Development” Programme;
* UNDP/GEF FAO “Lifecycle Management of Pesticides and Disposal of POPs Pesticides in Central Asian countries and Turkey” Project;
* Asian Development Bank
* MPU-Chemicals/RCU-Bratislava and UNDP-GEF.

Other stakeholders:

* The Ministry of Emergency Situations,
* Ministry of Labor and Social Security,
* Ministry of Transport and Communications,
* Ministry of Education and Science,
* Ministry of Internal Affairs,
* Ministry of Defense,
* State Customs Committee (Ministry of Finance),
* Agencies working in the field of chemicals management.
* NGOs.

The evaluator will review all relevant sources of information, such as the project document, project reports – including Annual APR/PIR, project budget revisions, midterm review, progress reports, GEF focal area tracking tools, project files, national strategic and legal documents, and any other materials that the evaluator considers useful for this evidence-based assessment. A list of documents that the project team will provide to the evaluator for review is included in [Annex B](#_TOR_Annex_B:) of this Terms of Reference.

Evaluation Criteria & Ratings

An assessment of project performance will be carried out, based against expectations set out in the Project Logical Framework/Results Framework (see [Annex A](#_TOR_Annex_A:)), which provides performance and impact indicators for project implementation along with their corresponding means of verification. The evaluation will at a minimum cover the criteria of: **relevance, effectiveness, efficiency, sustainability and impact.** Ratings must be provided on the following performance criteria. The completed table must be included in the evaluation executive summary. The obligatory rating scales are included in [Annex D](#_TOR_Annex_D:).

|  |  |  |  |
| --- | --- | --- | --- |
| **Evaluation Ratings:** | | | |
| **1. Monitoring and Evaluation** | ***rating*** | **2. IA& EA Execution** | ***rating*** |
| M&E design at entry |  | Quality of UNDP Implementation |  |
| M&E Plan Implementation |  | Quality of Execution - Executing Agency |  |
| Overall quality of M&E |  | Overall quality of Implementation / Execution |  |
| **3. Assessment of Outcomes** | **rating** | **4. Sustainability** | **rating** |
| Relevance |  | Financial resources: |  |
| Effectiveness |  | Socio-political: |  |
| Efficiency |  | Institutional framework and governance: |  |
| Overall Project Outcome Rating |  | Environmental : |  |
|  |  | Overall likelihood of sustainability: |  |

Project finance / cofinance

The Evaluation will assess the key financial aspects of the project, including the extent of co-financing planned and realized. Project cost and funding data will be required, including annual expenditures. Variances between planned and actual expenditures will need to be assessed and explained. Results from recent financial audits, as available, should be taken into consideration. The evaluator(s) will receive assistance from the Country Office (CO) and Project Team to obtain financial data in order to complete the co-financing table below, which will be included in the terminal evaluation report.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Co-financing  (type/source) | UNDP own financing (mill. US$) | | Government  (mill. US$) | | Partner Agency  (mill. US$) | | Total  (mill. US$) | |
| Planned | Actual | Planned | Actual | Planned | Actual | Planned | Actual |
| Grants | 0.115 | 0.115 |  |  |  |  | 0.115 | 0.115 |
| Loans/Concessions |  |  |  |  |  |  |  |  |
| * In-kind support |  |  | 0,270 | TBC | 0.16 | TBC | 0.286 | TBC |
| * Other |  |  |  |  |  |  |  |  |
| Totals | 0.115 | 0.115 | 0.270 | 0 |  |  | 0.401 | 0.115 |

Mainstreaming

UNDP supported GEF financed projects are key components in UNDP country programming, as well as regional and global programmes. The evaluation will assess the extent to which the project was successfully mainstreamed with other UNDP priorities, including poverty alleviation, improved governance, the prevention and recovery from natural disasters, and gender.

Impact

The evaluators will assess the extent to which the project is achieving impacts or progressing towards the achievement of impacts. Key findings that should be brought out in the evaluations include whether the project has demonstrated: a) verifiable improvements in ecological status, b) verifiable reductions in stress on ecological systems, and/or c) demonstrated progress towards these impact achievements.[[43]](#footnote-43)

Conclusions, recommendations & lessons

The evaluation report must include a chapter providing a set of **conclusions**, **recommendations** and **lessons**.

Implementation arrangements

The principal responsibility for managing this evaluation resides with the UNDP CO in Kyrgyzstan*.* The UNDP CO will contract the evaluators and ensure the timely provision of per diems and travel arrangements within the country for the evaluation team. The Project Team will be responsible for liaising with the Evaluators team to set up stakeholder interviews, arrange field visits, coordinate with the Government etc.

Evaluation timeframe

The total duration of the evaluation will be 20 days according to the following indicative plan:

|  |  |  |
| --- | --- | --- |
| **Activity** | Timing (indicative) | Completion Date (indicative) |
| **Preparation (desk review)** | *3* days (June, 2015) | *June, 2015* |
| **Evaluation Mission (in-country field visits, interviews)** | *7* days (June, 2015) | *June, 2015* |
| **Draft Evaluation Report** | *6* days (June, 2015) | *June, 2015* |
| **Final Report** | *4* days (June, 2015) | *June, 2015* |

Evaluation deliverables

The evaluation team is expected to deliver the following:

|  |  |  |  |
| --- | --- | --- | --- |
| Deliverable | Content | Timing | Responsibilities |
| **Inception Report** | Evaluator provides clarifications on timing and method | No later than 1 week before the evaluation mission. | Evaluator submits to UNDP CO and Project |
| **Presentation** | Initial Findings | Last day of the field mission (Friday) | Project Team, UNDP CO and key stakeholders, members of Project Board |
| **Draft Final Report** | Draft evaluation report, (per annexed template) with annexes | Within a week time after the field mission | Project team, CO, reviewed by RTA, GEF OFP |
| **Final Report\*** | Final report addressing and integrating feedback and comments | Within a week time after receiving comments on the draft | Sent to CO for uploading to UNDP ERC. |

\*When submitting the final evaluation report, the evaluator is required also to provide an 'audit trail', detailing how all received comments have (and have not) been addressed in the final evaluation report.

Team Composition

The evaluation team will be composed of *1 international and 1 national evaluators.* The consultants shall have prior experience in evaluating similar projects. Experience with GEF financed projects is an advantage. The international Consultant will be a team leader and bear responsibility over submission of a final report. The evaluators selected should not have participated in the project preparation and/or implementation and should not have conflict of interest with project related activities.

The Team members must present the following qualifications:

**International evaluator**

* Master degree in social or natural or chemicals sciences;
* Minimum 5 years of professional experience in the fields of chemicals or environmental management;
* Proven track record of application of UNDP and GEF M&E policies and procedures to projects focusing on environmental/ chemical management or persistent organic pollutants management, confirmed with at least two project evaluations
* Knowledge of priorities and basic principles of POPs management and relevant international best-practices, confirmed with at least two projects;
* Relevant experience in the CIS region would be an asset;
* Excellent English communication skills, knowledge of Russian would be an asset.

**National consultant**

* Master degree or equivalent in social or natural sciences;
* Minimum 3-years of professional experience in the field of environmental management;
* Basic knowledge of UNDP and GEF projects and implementation procedures, confirmed with at least one experience;
* At least one experience in applying results‐based monitoring and evaluation methodologies;
* Proficiency in English and Russian.

Evaluator Ethics

Evaluation consultants will be held to the highest ethical standards and are required to sign a Code of Conduct (Annex E) upon acceptance of the assignment. UNDP evaluations are conducted in accordance with the principles outlined in the [UNEG 'Ethical Guidelines for Evaluations'](http://www.unevaluation.org/ethicalguidelines)

Payment modalities and specifications

The service provider will be responsible for all personal administrative and travel expenses associated with undertaking this assignment including office accommodation, printing, stationary, telephone and electronic communications, and report copies incurred in this assignment. For this reason, the contract is prepared as a lump sum contract.

The remuneration of work performed will be conducted as follows: lump sum payable in 1 installment, upon satisfactory completion and approval by UNDP of all deliverables, including the Final Evaluation Report.

|  |  |
| --- | --- |
| % | Milestone |
| *100%* | Following submission and approval (UNDP-CO and UNDP RTA) of the final terminal evaluation report |

Application process

|  |
| --- |
|  |
| Interested individual consultants must submit the following documents/information to demonstrate their  qualifications:   1. Current and complete P.11 form; 2. Confirmation of Interest and Submission of Financial Proposal as per template; 3. At least two recommendation letters; 4. ID card; 5. Copy of diploma.   Documents with a subject “International Consultant for Terminal Evaluation” should be submitted no later than 15:00 (local time), May 25, 2015 to email: [procurement@pmu.undp.kg](mailto:procurement@pmu.undp.kg) or by post to the address below: Room 709, 6 floor, 101/1, Manas ave., Bishkek, Kyrgyz Republic.  SCOPE OF PRICE PROPOSAL  Contracts based on lump-sum  Lump sum contracts  The financial proposal shall specify a total lump sum amount, and payment terms around specific and measurable (qualitative and quantitative) deliverables. Payments are based upon output, i.e. upon delivery of the services specified in the TOR. In order to assist the requesting unit in the comparison of financial proposals, the financial proposal will include a breakdown of this lump sum amount (including travel, per diems, and number of anticipated working days).  ADDITIONAL REQUIREMENTS FOR THE RECOMMENDED CONTRACTOR  **Statement of Medical Fitness for Work**  Individual Consultants/Contractors whose assignments require travel and who are over 62 years of age are required, at their own costs, to undergo a full medical examination including x-rays and obtaining medical clearance from UN –approved doctor, prior to taking up their assignment  Where there is no UN office nor a UN Medical Doctor present in the location of the Individual Contractor prior to commencing the travel, either for repatriation or duty travel, the Individual Contractor may choose his/her own preferred physician to obtain the required medical clearance.  **Inoculations/Vaccinations**  Individual Contractors are required to have vaccinations/inoculations when travelling to certain countries, as designated by the UN Medical Director. The cost of required vaccinations/inoculations, when foreseeable, must be included in the financial proposal. Any unforeseeable vaccination/inoculation cost will be reimbursed by UNDP.  SECURITY CLEARANCE  The Consultant will be requested to undertake the Basic Security in the Field (BSIF) training and Advanced Security in the Field (ASIF). These requirements apply for all Consultants, attracted individually or through the Employer. |

Annex A: Project Logical Framework

|  |
| --- |
| **Project Title:**  ***Management and Disposal of PCBs in Kyrgyzstan*** |

| **Project Strategy** |  | | | | |
| --- | --- | --- | --- | --- | --- |
| **Indicators** | **Baseline** | | **Sources of Verification** | **Assumptions** |
| **Goal** | Sustainable management of PCBs in Kyrgyzstan. | | | | |
| ***Objective***  Minimizing environmental and health risks associated with the PCBs through strengthening technical and regulatory capacity for the environmentally sound management and disposal of the PCBs in Kyrgyzstan.  ***Output 1(а)***: Comprehensive identification of PCBs in the country including in-service electrical equipment, PCB stockpiles/ wastes and potentially PCB contaminated sites maintained | Established and sustainable operational and regulatory capacity undertaking identification and management of PCBs in compliance with Stockholm Convention obligations by 2013. | | National Implementation Plan for Stockholm Convention (NIP) adopted based on preliminary knowledge of issue.  Absence of implementation capacity, either institutionally or physically.  Fragmented institutional responsibility for issue. | Regulatory monitoring of sources of PCBs and work of service providers.  National environmental performance reports.  Country Convention compliance status.  Project Progress and Monitoring and Evaluation Reports | Overall government commitment and assumption of appropriate responsibility.  Regulatory enforcement sources and capacity available.  Accurate monitoring and reporting.  Availability of candidate service providers in the government and/or private sector. |
| Detailed inventory of PCB containing and contaminated equipment in service, existing PCB waste stockpiles and PCB contaminated sites in place in 2012. | | Incomplete inventory of in-service equipment and inventories of PCB waste stockpiles, cross contaminated equipment and contaminated sites. | On- site verification by trained experts.  Screening sampling results.  Reports on labeling and registry measures.  Convention reporting. | Cooperation of PCB holders.  Parallel implementation of labeling and registration measures.  Ongoing budget support for monitoring and sampling purposes. |
| Data management and mapping system operational and used for reporting in 2012. | | There is no formal consolidated PCB Information System or associated reporting capability. | Response from stakeholders.  Validation of information as PCB management activities are implemented.  Use of Convention reporting. | Responsible agency is assigned and provided with resources to operate and maintain the system.  Detailed inventory information available. |
| Supply of 250 screening test kits and 4 portable analytical units with 10 personnel trained in their use by 2012. | | Absence of capability to cost- effectively identify and categorize PCB contaminated materials acting as a major barrier to inventory development. | Reports on labeling and registry measures. | Cooperation of PCB holders  Availability of staff.  Availability and acceptance of internationally accepted screening tools.  Commitment of authorities to sustain the capability. |
| Technical instructions for identification, sampling, maintenance, storage and disposal of PCB containing equipment in service and out of operation are in place in 2012. | | No consolidated guidance available to holders of PCBs, relevant authorities or service providers on the practical primary management of PCBs. | Project Progress and Monitoring and Evaluation Reports.  Expanded identification of PCB equipment in inventory. | Implementation of labeling and registration measures.  Cooperation of PCB holders.  Availability of authorized service providers. |
| Output 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. | Publically accessible information on PCBs and their management including: i) a maintained official website; ii) distributed brochures; iii) media exposure (two annual campaigns during the project implementation); iv) information events (two during the project implementation). | | Low level of general awareness related to PCBs and chemicals management generally across all stakeholders.  No current information products or programs. | Project Progress and Monitoring and Evaluation Reports.  Monitoring of press and media coverage.  Use of the website | Strengthening capacity to maintain awareness efforts and key programs.  Active participation and partnership with NGO community.  Interest and participation of stakeholders. |
| Training and information seminars on chemicals management including PCBs for relevant government agencies, the academic community, affected communities, NGOs and holders of PCBs (4 events during the project). | | Key stakeholders generally have limited awareness of the issue or actions required of them to address it. | Project Progress and Monitoring and Evaluation Reports.  Attendance at training information events.  NGO /stakeholder feedback. | Active participation and partnership with NGO community.  Interest and participation of stakeholders. |
| Outcome 2: Development and implementation of priority regulatory measures to control the import/export, report, management and ultimate elimination of PCBs. | Normative documents requiring registration, labeling and status reporting of potential all PCB and PCB containing materials in use in 2012. | | No current regulations requiring declaration /reporting / unique identification by holders of present PCB wastes and stockpiles or PCB containing equipment. | Project Progress and Monitoring and Evaluation Reports  National legal and regulatory registers.  Analysis of PCB inventory results and response rates.  Frequency of compliance reporting required of potential PCB holders under applicable regulations. | Cooperation and compliance of PCB holders and service providers.  Government commitment to timely processing of required regulations.  Strengthening government support for enforcement of regulatory measures and compliance reporting on them. |
| The classification has already been adopted and approved by the government. | | PCB waste classification is not well defined in current waste management regulations allowing potential avoidance of proper management. | Government Decree № 9 as of 15.01.2010. | Government commitment to timely process and apply required regulations /normative documents.  Acceptance of international experience and precedents related to regulatory practice and standards.  UNDP Project «Capacity Building for Introduction of Sustainable Waste Management Principles in the Kyrgyz Republic» drafted the classification and got it approved. |
|  | Establishment of MACs for PCBs in environmental media, consistent with international standards in 2012. | | MACs for PCBs in main environmental media are either not defined or can be practically applied. | National legal and regulatory registers.  Equivalency comparisons with international standards.  Environmental monitoring results. | Government commitment to timely process required regulations.  Acceptance of international experience and precedents related to regulatory practice and standards.  Availability of screening and lab analysis. |
| Enactment of legal ban on new use, re- sue, trade, import and export of PCBs and PCB contaminated equipment and materials 2013. | | No regulations on PCB trade, use and import/ export.  Uncontrolled trade in contaminated PCB equipment occurs including export of stockpiles and waste and import of used PCB equipment.  Re-use of PCBs occurs.  Declassification of PCB contaminated equipment occurs. | National legal and regulatory registers.  Customs reporting information.  Control through inventory reporting and effective identification, labeling and registry of PCB contaminated equipment in service.  Compliance reporting required of potential PCB holders under applicable regulations.  Basel Convention reporting. | Cooperation and compliance of PCB holders, service providers and customs officials.  Government commitment to timely process required regulations.  Acceptance of international experience and precedents related to regulatory practice and standards.  Strengthening government support for enforcement of regulatory measures and compliance reporting on them. |
| Legal measures allowing unrestricted regulatory access to information and locations that may have PCBs (wastes, stockpiles, PCB containing equipment and site contamination) in 2012 | | Legal barriers on the ability of authorities to access, inspect and access sites. | Project Progress and Monitoring and Evaluation Reports  National legal and regulatory registers.  Compliance reporting required of potential PCB holders under applicable regulations. | Cooperation and compliance of PCB holders and service providers.  Government commitment to timely processing of required regulations.  Strengthening government support for enforcement of regulatory measures and compliance reporting on them. |
| 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. | Basic national analytical capacity to analyze for PCBs operational with upgraded equipment installed and trained personnel in place (10 persons) by 2013. | | At present, no laboratory is equipped to specifically undertake PCB analysis, although some facilities offer an opportunity to be upgraded. | Project Progress and Monitoring and Evaluation Reports.  Legal agreements on access and use.  Procurement documents on supply of equipment as necessary.  Accreditation documents and training certificates.  Laboratory records. | Availability and agreement on long-term access to a suitable facility for purposes of upgrading.  Government commitment to support the operation of such a facility in the long term. |
| Strategy and plan for pre-treatment and disposal of PCB stockpiles and wastes in place in 2012. | | No plan in place to develop or access pre-treatment or disposal capacity exists for PCB waste stockpiles. | Project Progress and Monitoring and Evaluation Reports.  Expert assessment of strategy and plan documentation.  Evaluation against international practice and experience, standards and guidance documents (i.e. Basel Convention, GEF / STAR) | Detailed inventory accurately estimates long term pre-treatment and disposal needs.  Participation of PCB holders, local service providers, scientific experts and international technology suppliers. |
| Outcome 4: Sustainable capacity to capture, package and securely store PCB stockpiles/ wastes and ESM disposal of priority stockpiles in accordance with environmental requirements. | Secure storage capacity for PCB stockpiles and wastes at major holders’ sites and central sites (orphan material and equipment from sensitive locations) by 2013. | | No hazardous waste storage suitable for PCB waste stockpiles is available.  Temporary facilities for obsolete pesticides established but with no long-term operational structure.  No provision for secure storage at PCB holder sites. | Project Progress and Monitoring and Evaluation Reports.  Design review documents.  Procurement documents.  Facility regulatory approvals | PCB regulations and detailed inventory in place.  Establishment of sustainable operational and custody arrangements.  Timely regulatory approvals. |
| Trained and equipped service providers capable of undertaking packaging, transportation and residual contamination cleanup for PCB wastes including training of staff of 30 by 2013. | | Limited trained capability in the safe handling of PCB contaminated materials and general absence of such capability among holders of PCBs and private service providers. | Certification of service providers and staff. | Cooperation of potential service providers. |
| Disposal of 50 MT of PCB stockpiles by export to a qualified disposal facility by 2013. | | No identified and secured stockpiles with most stockpiles likely being exported as scrap but leaving residual contamination in the form of waste materials and contaminated soils at unknown locations.  No assigned responsibility for hazardous waste management generally and PCB in particular. | Destruction permits  Basel Convention notices and consent documents.  Waste transport tracking documents.  Applicable government resolutions.  Budget allocations.  Demonstration of effective assumption of responsibility by designated organizations. | Availability of suitable disposal facilities.  Transit permissions from transit countries.  Government leadership in undertaking clear designation of responsible organizations.  Cooperation of stakeholder agencies and other organizations. |

Annex B: List of Documents to be reviewed by the evaluators

**General documentation**

* UNDP Programme and Operations Policies and Procedures (POPP);
* UNDP Handbook for Monitoring and Evaluating for Results;
* GEF Monitoring and Evaluation Policy;
* GEF Guidelines for conducting Terminal Evaluations.

**Project documentation**

* Project document;
* Annual Work Plans;
* Annual Project Reports;
* Project Implementation Review;
* GEF Operational Quarterly Reports;
* Midterm Evaluation Report (MTE);
* Management response to MTE;
* Inception report;
* Project Board Meeting minutes;
* Knowledge and legislation related products.

Annex C: Evaluation Questions

*This is a generic list, to be further detailed with more specific questions by CO and UNDP GEF Technical Adviser based on the particulars of the project.*

| **Evaluative Criteria Questions** | | **Indicators** | **Sources** | **Methodology** |
| --- | --- | --- | --- | --- |
| Relevance: How does the project relate to the main objectives of the GEF focal area, and to the environment and development priorities at the local, regional and national levels? | | | | |
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| Effectiveness: To what extent have the expected outcomes and objectives of the project been achieved? | | | | | |
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| Efficiency: Was the project implemented efficiently, in-line with international and national norms and standards? | | | | | |
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| Sustainability: To what extent are there financial, institutional, social-economic, and/or environmental risks to sustaining long-term project results? | | | | | |
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| **Impact: Are there indications that the project has contributed to, or enabled progress toward, reduced environmental stress and/or improved ecological status?** | | | | | |
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Annex D: Rating Scales

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| --- | --- | --- |
| ***Ratings for Outcomes, Effectiveness, Efficiency, M&E, I&E Execution*** | ***Sustainability ratings:*** | ***Relevance ratings*** |
| 6: Highly Satisfactory (HS): no shortcomings  5: Satisfactory (S): minor shortcomings  4: Moderately Satisfactory (MS)  3. Moderately Unsatisfactory (MU): significant shortcomings  2. Unsatisfactory (U): major problems  1. Highly Unsatisfactory (HU): severe problems | 4. Likely (L): negligible risks to sustainability | 2. Relevant (R) |
| 3. Moderately Likely (ML):moderate risks | 1.. Not relevant (NR) |
| 2. Moderately Unlikely (MU): significant risks  1. Unlikely (U): severe risks | ***Impact Ratings:***  3. Significant (S)  2. Minimal (M)  1. Negligible (N) |
| *Additional ratings where relevant:*  Not Applicable (N/A)  Unable to Assess (U/A | | |

Annex E: Evaluation Consultant Code of Conduct and Agreement Form

**Evaluators:**

1. Must present information that is complete and fair in its assessment of strengths and weaknesses so that decisions or actions taken are well founded.
2. Must disclose the full set of evaluation findings along with information on their limitations and have this accessible to all affected by the evaluation with expressed legal rights to receive results.
3. Should protect the anonymity and confidentiality of individual informants. They should provide maximum notice, minimize demands on time, and respect people’s right not to engage. Evaluators must respect people’s right to provide information in confidence, and must ensure that sensitive information cannot be traced to its source. Evaluators are not expected to evaluate individuals, and must balance an evaluation of management functions with this general principle.
4. Sometimes uncover evidence of wrongdoing while conducting evaluations. Such cases must be reported discreetly to the appropriate investigative body. Evaluators should consult with other relevant oversight entities when there is any doubt about if and how issues should be reported.
5. Should be sensitive to beliefs, manners and customs and act with integrity and honesty in their relations with all stakeholders. In line with the UN Universal Declaration of Human Rights, evaluators must be sensitive to and address issues of discrimination and gender equality. They should avoid offending the dignity and self-respect of those persons with whom they come in contact in the course of the evaluation. Knowing that evaluation might negatively affect the interests of some stakeholders, evaluators should conduct the evaluation and communicate its purpose and results in a way that clearly respects the stakeholders’ dignity and self-worth.
6. Are responsible for their performance and their product(s). They are responsible for the clear, accurate and fair written and/or oral presentation of study imitations, findings and recommendations.
7. Should reflect sound accounting procedures and be prudent in using the resources of the evaluation.

**Evaluation Consultant Agreement Form[[44]](#footnote-44)**

**Agreement to abide by the Code of Conduct for Evaluation in the UN System**

**Name of Consultant:** \_\_     \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Name of Consultancy Organization** (where relevant)**:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**I confirm that I have received and understood and will abide by the United Nations Code of Conduct for Evaluation.**

Signed at *place* on *date*

Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Annex F: Evaluation Report Outline[[45]](#footnote-45)

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| --- | --- |
| **i.** | Opening page:   * Title of UNDP supported GEF financed project * UNDP and GEF project ID#s. * Evaluation time frame and date of evaluation report * Region and countries included in the project * GEF Operational Program/Strategic Program * Implementing Partner and other project partners * Evaluation team members * Acknowledgements |
| **ii.** | Executive Summary   * Project Summary Table * Project Description (brief) * Evaluation Rating Table * Summary of conclusions, recommendations and lessons |
| **iii.** | Acronyms and Abbreviations  (See: UNDP Editorial Manual[[46]](#footnote-46)) |
| **1.** | Introduction   * Purpose of the evaluation * Scope & Methodology * Structure of the evaluation report |
| **2.** | Project description and development context   * Project start and duration * Problems that the project sought to address * Immediate and development objectives of the project * Baseline Indicators established * Main stakeholders * Expected Results |
| **3.** | Findings  (In addition to a descriptive assessment, all criteria marked with (\*) must be rated[[47]](#footnote-47)) |
| **3.1** | Project Design / Formulation   * Analysis of LFA/Results Framework (Project logic /strategy; Indicators) * Assumptions and Risks * Lessons from other relevant projects (e.g., same focal area) incorporated into project design * Planned stakeholder participation * Replication approach * UNDP comparative advantage * Linkages between project and other interventions within the sector * Management arrangements |
| **3.2** | Project Implementation   * Adaptive management (changes to the project design and project outputs during implementation) * Partnership arrangements (with relevant stakeholders involved in the country/region) * Feedback from M&E activities used for adaptive management * Project Finance: * Monitoring and evaluation: design at entry and implementation (\*) * UNDP and Implementing Partner implementation / execution (\*) coordination, and operational issues |
| **3.3** | Project Results   * Overall results (attainment of objectives) (\*) * Relevance(\*) * Effectiveness & Efficiency (\*) * Country ownership * Mainstreaming * Sustainability (\*) * Impact |
| **4.** | Conclusions, Recommendations & Lessons   * Corrective actions for the design, implementation, monitoring and evaluation of the project * Actions to follow up or reinforce initial benefits from the project * Proposals for future directions underlining main objectives * Best and worst practices in addressing issues relating to relevance, performance and success |
| **5.** | Annexes   * ToR * Itinerary * List of persons interviewed * Summary of field visits * List of documents reviewed * Evaluation Question Matrix * Questionnaire used and summary of results * Evaluation Consultant Agreement Form * Co-financing table |

Annex G: Evaluation Report Clearance Form

*(to be completed by CO and UNDP GEF Technical Adviser based in the region and included in the final document)*

Evaluation Report Reviewed and Cleared by

UNDP Country Office

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

UNDP GEF RTA

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# ANNEX II – REVISED PROJECT LOGICAL FRAMEWORK

| Objectively verifiable indicators | Baseline | Target | Sources of verification | Assumptions | SMART Analysis of the project Objectively Verifiable Indicators | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| S | M | A | R | T |
| **Objective: 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** | | | | | | | | | |
| * Established and sustainable operational and regulatory capacity undertaking identification and management of PCBs in compliance with Stockholm Convention obligations by 2013 | * NIP adopted based on preliminary knowledge of issue. * Absence of implementation capacity, either institutionally or physically. * Fragmented institutional responsibility for issue. | * Functional regulatory regime covering import/export, identification, capture and securing PCBs for future disposal. * Operation capacity for ESM of current and future stockpiles and waste. * Informed PCB holders and qualified service providers to undertake PCB management activities. * Clear assignment of responsibilities within the government. | * Regulatory monitoring of sources of PCBs and work of service providers. * National environmental performance reports. * Country Convention compliance status. * Project Progress and M&E reports | * Overall government commitment and assumption of appropriate responsibility. * Regulatory enforcement resources and capacity available. * Accurate monitoring and reporting. * Availability of candidate service providers in the government and/or private sector. | - | - | - | X | X |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Outcome 1(a): Comprehensive identification of PCBs in the country including in-service electrical equipment, PCB stockpiles/wastes and potentially PCB contaminated sites maintained.** | | | | | | | | | |
| * Detailed inventory of PCB containing and contaminated equipment in service, existing PCB waste stockpiles and PCB contaminated sites in place in 2012 | * Incomplete inventory of in service equipment and inventories of PCB waste stockpiles, cross-contaminated equipment and contaminated sites. | * Comprehensive PCB inventory for in-service equipment, waste stockpiles and contaminated sites that will be maintained on an ongoing basis | * On-site verification by trained experts. * Screening sampling results. * Regulatory reporting on labeling and registry measures. * Convention reporting. | * Cooperation of PCB holders. * Parallel implementation of labeling and registration measures. * Ongoing budget support for monitoring and sampling. | X | X | X | X | X |
| * Data management and mapping system operational and used for reporting in 2012 | * No formal consolidated PCB information system or associated reporting capability. | * Publically accessible PCB information system operational, maintained, and used for reporting and information exchange under the Convention | * Response from stakeholders. * Validation of information as PCB management activities are implemented. * Use in convention reporting. | * Responsible agency assigned and resourced to operate and maintain system. * Detailed inventory information available | *X* | *X* | *X* | *X* | *X* |
| * Supply of 250 PCB screening test kits and 4 portable analytical units with 10 personnel trained in their use by 2012 | * Absence of capability to cost-effectively identify and categorize PCB contaminated materials acting as a major barrier to inventory development. | * Screening capacity to effectively support detailed inventory maintenance as PCB management is undertaken into the future. | * Regulatory reporting on labeling and registry measures. | * Cooperation of PCB holders * Availability of personnel. * Availability and acceptance of internationally accepted screening tools. * Commitment of authorities to sustain the capability. | X | X | X | X | X |
| * Technical instructions on identification, sampling, servicing, storage, and handling of PCB containing equipment in service and upon retirement, available in 2012 | * No consolidated guidance available to holders of PCBs, relevant authorities or service providers on the practical primary management of PCBs. | * Availability and application of technical instructions for management of current and future PCB inventories. | * Project Progress and M&E reports. * Expanded identification of PCB equipment in inventory. | * Implementation of regulatory labeling and registry measures. * Cooperation of PCB holders. * Availability of authorized service providers | X | X | - | X | X |

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| **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.** | | | | | | | | | | |
| * Publically accessible information on PCBs and their management including: i) a maintained official web site; ii) a widely distributed brochure; iii) media exposure (two annual campaigns during project); iv) information events (two during project). | * Low level of general awareness related to PCBs and chemicals management generally across all stakeholders. * No current information products or programs. | * Widely accessible current information on PCBs and ongoing management activities. * Integration into a national information program on sound chemicals management | * Project Progress and M&E reports. * Monitoring of press and media coverage. * Web site utilization | * Sustaining capacity to maintain awareness efforts and key programs. * Active participation and partnership with NGO community. * Interest and participation of stakeholders. |  | X | X | X | X | X |
| * Educational curricula related to chemicals (including PCBs) impacts on environment and human health, and management actions for addressing the issue during the project. | * Limited active educational efforts or tools available. | * Inclusion of chemicals management and particularly PCBs in relevant educational programs, and active R&D interest in addressing it. | * Project Progress and M&E reports. * Content of educational and academic publications. * Enrollment in relevant courses | * Sustaining interest and capacity in educational institutions to maintain educational programs. * Active participation and partnership with educational and research institutions. |  | X | X | X | X | X |
| * Training and information seminars on chemicals management including PCBs for relevant government agencies, the academic community, affected communities, NGOs, and holders of PCBs (4 events during the project). | * Key stakeholders generally have limited awareness of the issue or actions required of them to address it. | * Well informed stakeholder community engaged in addressing the issue with a high level of understanding and technical capacity. | * Project Progress and M&E reports. * Attendance at training information events. * NGO/stakeholder feedback. | * Active participation and partnership with NGO community. * Interest and participation of stakeholders. |  | X | X | X | X | - |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Outcome 2: Development/ and implementation of priority regulatory measures to control the import/export, report, management and ultimate elimination of PCBs.** | | | | | | | | | |
| * Regulations requiring registration, labeling and status reporting of potential all PCB and PCB containing materials in use in 2012 | * No current regulations requiring declaration/reporting/unique identification by holders of presence of PCB waste stockpiles or PCB containing equipment. | * A comprehensive national regulatory registry of all PCB containing equipment in service that is maintained and updated such that its status and fate can be tracked | * Project Progress and M&E reports * National legal and regulatory registers. * Analysis of PCB inventory results and response rates. * Frequency of compliance reporting required of potential PCB holders under applicable regulations. | * Cooperation and compliance of PCB holders and service providers. * Government commitment to timely processing of required regulations. * Sustaining government support for enforcement of regulatory measures and compliance reporting on them. | X | X | - | X | X |
| * The classification has already been adopted | * PCB waste classification not well defined in current waste management regulations allowing potential avoidance of proper management. | * Explicit inclusion of high concentration PCB wastes as priority hazardous wastes in national waste management legislation/regulations. * Consistency of these with applicable international standards and the Basel Convention on trans-boundary movement of hazardous waste. | * National legal and regulatory registers. * Equivalency comparisons with international standards. * Basel convention reporting. | * Government commitment to timely processing and application of required regulations. * Acceptance of international experience and precedents respecting regulatory practice and standards. | - | - | - | - | - |
| * Establishment of MACs for PCBs in environmental media, consistent with international standards in 2012 | * MAC’s for PCBs in main environmental media are either not defined or can be practically applied. | * Realistic and enforceable MACs for soil, water and air established that are consistent with international standards. | * National legal and regulatory registers. * Equivalency comparisons with international standards. * Environmental monitoring results | * Government commitment to timely processing of required regulations. * Acceptance of international experience and precedents respecting regulatory practice and standards. * Availability of screening and laboratory analysis. | X | X | X | X | X |
| * Enactment of legal ban on new use, re-use, trade, import, and export of PCBs and PCB contaminated equipment and materials in 2012 | * No regulation of PCB trade, use and import/export. * Uncontrolled trade in contaminated PCB equipment occurs including export of stockpiles and waste and import of used PCB equipment. * Re-Use of PCBs occurs. * In appropriate declassification of PCB contaminated equipment occurs | * Effective implementation and enforcement of use, re-use, trade, import and export bans including ensuring trade in scrapped contaminated PCB equipment and import of used PCB equipment is eliminated. | * National legal and regulatory registers. * Customs reporting information * Control through inventory reporting, and effective identification, labeling and registry of PCB contaminated equipment in service. * Compliance reporting required of potential PCB holders under applicable regulations. * Basel Convention reporting. | * Cooperation and compliance of PCB holders, service providers and customs officials.. * Government commitment to timely processing of required regulations. * Acceptance of international experience and precedents respecting regulatory practice and standards. * Sustaining government support for enforcement of regulatory measures and compliance reporting on them. | X | X | - | X | X |
| * Legal measures allowing unrestricted regulatory access to information and locations that may have PCBs, wastes stockpiles, PCB containing equipment and site contamination in 2012 | * Legal barriers on the ability of authorities to access inspect and access sites. | * Allowance in practice of access by mandated regulatory authorities to sites potentially containing or contaminated by PCBs, including rights to initiate assessment. | * Project Progress and M&E reports * National legal and regulatory registers. * Compliance reporting required of potential PCB holders under applicable regulations. | * Cooperation and compliance of PCB holders and service providers. * Government commitment to timely processing of required regulations. * Sustaining government support for enforcement of regulatory measures and compliance reporting on them. | X | X | - | X | X |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **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.** | | | | | | | | | |
| * Basic national analytical laboratory capacity to analyze for PCBs operational with upgraded equipment installed and trained personnel in place (10 people) by 2011. | * Currently no laboratory is equipped to specifically undertake PCB analysis, although some facilities offer an opportunity to be upgraded. | * One accredited national laboratory capable of doing routine PCB analysis in soil, water and air samples inclusive of trained personnel and accessible to responsible regulatory authorities, PCB holders and service providers. | * Project Progress and M&E reports. * Legal agreements on access and use. * Procurement documents on supply of equipment as necessary. * Accreditation documents and training certificates. * Laboratory records, | * Availability and agreement on long-term access to a suitable facility for purposes of upgrading. * Government commitment to support the operation of such a facility in the long term. | - | - | X | X | X |
| * Strategy and plan for pre-treatment and disposal of PCB stockpiles and wastes in place in 2012 | * No plan in place to develop or access pre-treatment or disposal capacity exists for PCB waste stockpiles. | * Comprehensive strategy and plan adopted, defining selection and the process of implementation of pre-treatment and disposal options both to be applied in the country (i.e. equipment decontamination, soil management, potential cement kiln utilization) and through export, including potential regional initiatives. | * Project Progress and M&E reports. * Expert assessment of strategy and plan documentation. * Evaluation against international practice and experience, standards, and guidance documents (i.e. Basel Convention, GEF/STAP) | * Detailed inventory accurately estimates long term pre-treatment and disposal needs. * Participation of PCB holders, local service providers, scientific experts, and international technology suppliers. | X | X | - | X | X |
| * Development of standards and methodologies for ongoing identification and assessment of contaminated sites, inclusive of 15 trained service provider staff to undertake it. | * Minimal local capacity exists respecting contaminated site clean- up generally and specifically with respect to PCB contamination. | * Operational capability within responsible government agencies and/or commercial service providers to undertake assessment and clean-up of PCB contaminated sites consistent with international practice. | * Project Progress and M&E reports. * Expert assessment of standard and methodology documentation. * Evaluation against international practice and standards. | * Designation of responsible operational authorities and availability of local service providers. * Detailed PCB inventory accurately identifies potential contaminated sites. | - | X | - | X | - |
| * Long term plan for the monitoring and phase out of PCB containing equipment in service consistent with Convention requirements (2025) formally adopted. | * The phase out of PCB equipment is currently uncontrolled and includes practices such as selling/exporting PCB contaminated equipment for scrap, importing used PCB equipment for new or replacement installations, and replacing PCB oils in transformers to de-classify the equipment. | * A fully elaborated detailed plan endorsed by responsible authorities and PCB holders for replacement of in service PCB equipment identified in the detailed national inventory (Outcome 1), consistent with Convention obligations. | * Project Progress and M&E reports. * Expert assessment of the plan. * Concordance evaluation with Convention requirements. | * Detailed PCB inventory accurately identifies PCB containing equipment in service and projects its operation life. * Effective regulatory controls are in place governing the identification, labeling, and status reporting of PCB containing equipment. * PCB equipment holder assumption of replacement responsibility. | X | X | - | X | X |
| **Outcome 4: Sustainable capacity to capture, package and securely store PCB stockpiles/wastes and ESM disposal of priority stockpiles.** | | | | | | | | | |
| * Secure storage capacity for PCB stockpiles and wastes at major holders sites and central site(s) for material without a secure storage option (orphan material and equipment from sensitive locations) by 2013 | * No hazardous waste storage suitable for PCB waste stockpiles is available. * Temporary facilities for obsolete pesticides established but with no long term operational structure. * No provision for secure storage at holders sites. | * Two nationally designated secure storage facility established and equipped with necessary infrastructure for PCB waste stockpiles under continuing care and custody of a responsible government authority. * Major holders have secure storage facilities to accommodate PCB contaminated equipment when retired as an option. | * Project Progress and M&E reports. * Design review documents. * Procurement documents. * Facility regulatory approvals | * PCB regulations and detailed inventory in place. * Establishment of sustainable operational and custody arrangements. * Timely regulatory approvals. | - | X | - | X | X |
| * Feasibility assessment and decision respecting decontamination of PCB containing equipment to allow retention in service or minimization of elimination obligations. | * Some PCB containing electrical equipment (transformers) are in critical applications and have long remaining service lives. * Current practices involving replacement of oil do not meet international standards and result in retention of PCB contaminated equipment. | * Establish the feasibility of environmentally sound transformer decontamination locally as an option to replacement and export of large volumes of materials for ESM disposal. | * Project Progress and M&E reports. * Expert assessment of assessment results and demonstration performance. | * Local decontamination is cost effective relative to replacement. * Existing transformers can be practically decontaminated to a low POBs level based in international benchmarks. * PCB holder cooperation | X | X | X | X | - |
| * Trained and equipped service providers capable of undertaking packaging, transportation, and residual contamination cleanup for PCB wastes including training of 30 staff by 2013 | * Limited trained capability in the safe handling of PCB contaminated materials and general absence of such capability among holders of PCBs and private service providers. | * Fully operational service provider capacity to support the securing of PCB waste stockpiles and transport to the designated national facility or export for disposal. | * Certifications of service providers and staff. | * Cooperation of potential service providers. | - | X | - | X | X |
| * Disposal of 50 MT of PCB stockpiles by export to a qualified disposal facility by 2013 | * No identified and secured stockpiles with most stockpiles likely being exported as scrap but leaving residual contamination in the form of waste materials and contaminated soils at unknown locations. * No assigned responsibility for hazardous waste management generally and PCBs in particular. | * Environmentally sound disposal of 50 MT of POPs waste and local experience for future disposal requirements..   . | * Destruction certificates * Basel convention notices and consent documentation * Waste transport tracking documents. * Applicable government resolutions. * Budget allocations. * Demonstration of effective assumption of responsibility by designated organizations. | * Availability of suitable disposal facilities. * Transit permissions from transit countries. * Government leadership in undertaking clear designation of responsible organizations. * Cooperation of stakeholder agencies and other organizations. | X | X | - | X | X |

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| **Outcome 5: Monitoring, learning, adaptive feedback, outreach and evaluation** | | | | | | | | | |
| * M&E and adaptive management applied to project in response to needs, mid-term evaluation findings with lessons learned extracted. | * No Monitoring and Evaluation system * No evaluation of project output and outcomes | * Monitoring and Evaluation system developed during year 1. * Mid-term-evaluation of project output and outcomes conducted with lessons learnt at 30 months of implementation. * Final evaluation report ready in the end of project | * Project document inception workshop report. * Independent mid-term evaluation report. * Final evaluation report | * Availability of reference material and progress reports * Cooperation of stakeholder agencies and other organizations. | X | X | X | X | X |

# ANNEX III: ITINERARY & LIST OF ORGANIZATIONS, ENTITIES AND INDIVIDUALS INTERVIEWED

**Table 23:** Itinerary for Final Evaluation Mission of the UNDP/GEF Project “*Management and Disposal of PCBs in Kyrgyzstan*” 12 – 16 July, 2015, Kyrgyzstan

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Tim**e** | Venue | Partner | Representative | Contact Information |
| Arrival International Consultant at Bishkek International Airport, Kyrgyzstan at 3:10 pm | | | |  |
| Monday, 13 July 2015, Bishkek | | | |  |
| 09:00 - 10:45 | Room 617, PMU office, Manas ave.101/1, Bishkek | Project Management Unit (PMU) | **Mr. Kumar Kylychev** -EE Dimension Chief  **Ms. Zhyldyz Uzakbaeva** -Chemical portfolio Projects Coordinator  **Ms. Gulzira Muktarova** - EPSD Programme Assistant  **Mr. Omurbek Elemanov** - Former project specialist | **Mob:** +996 777 957 095  **Mob:** +996 558 140 981  **Mob:** +996 555 229 877  **Mob:** +996 550 997 069 |
| 10:45 – 11:30 | UNDP CO, Chui ave. 160, Bishkek | Kyrgyzstan UNDP Country Office | **Mr. Daniar Ibragimov** - Policy Analyst  **Ms. Aidai Ashiralieva** - UNDP Associate  **Mr. Kumar Kylychev** - EE Dimension Chief | **Mob:** +996 772 550 450  **Mob:** +996 559 505 353  **Mob:** +996 777 957 095 |
| 13:30 - 14:00 | The Ministry of Energy and Industry of the KR, str. Ahunbaeva, Bishkek | Ministry of Energy and Industry (MoEI) of the Kyrgyz Republic | **Mr. Baetov B.I.** -State-secretary of the Ministry of Energy and Industry of the KR  **Mr. Mirbek Esengulov** -Chief specialist, Ministry of Energy and Industry of the KR | **Mob:** +996 550 312 996 |
| 14:00 – 14:30 | The Ministry of Energy and Industry of the KR, str. Ahunbaeva, Bishkek | Ministry of Energy and Industry (MoEI) of the Kyrgyz Republic | **Mr. Mirbek Esengulov** -Chief specialist, Ministry of Energy and Industry of the KR |  |
| 14:30 - 15:30 | The Ministry of Energy and Industry of the KR, str. Ahunbaeva, Bishkek | State Inspection on Environmental and Technical Safety (SIETS) under the Government of the Kyrgyz Republic | **Mr. Sakeev D.I.** - Head of Energy Safety Department of the State Inspectorate on Ecological and Technical Safety under the Government KR |  |
| 16:00 – 16:30 | UNDP CO, Chui ave. 160, Bishkek | Kyrgyzstan UNDP Country Office | **Security briefing** |  |
| Tuesday, 14 July 2015, Bishkek | | | |  |
| 11.00 - 12.00 | 241, Bokonbaeva str. /Molodaya Gvardiya  2 floor, room of deputy director | Ministry of Agriculture and Melioration - Department of Chemicals and Plant Protection of the  NGO “Ekois” | **Mr. Derbishaliev S. Janybek –** Director, Department of Chemistry and Protection, Ministry of Agriculture Melioration of the Kyrgyz Republic  **Mr. Pak Vladimir** – Deputy Director, Department of Chemistry and Protection, Ministry of Agriculture Melioration of the Kyrgyz Republic  **Mr. Alakunov Almaz –** Head, Section of plant protection and pesticide registration, Department of Chemistry and Protection, Ministry ofAgriculture Melioration of the Kyrgyz Republic  **Ms. Jakipova I.** – Coordinator of FAO Chemicals project | **Tel**: 352546  **Tel**: 352656, 0773881755  **Tel:** 0772291522 |
| 15:00 - 16:30 | Bishkek,  Jibek-Jolu 326/Orozbekova | OJSC National Electric Network of Kyrgyzstan (NESK) | **Mr. Borodin** - First deputy Director General JSC “NES of Kyrgyzstan”  **Mr. Shapar V.** - Chief specialist JSC “*NES of Kyrgyzstan*” | **Tel:** +996 (312) 661-002  **Tel:** +996 (312) 661-002 |
| 17:00 - 17:45 | UNDP CO, Chui ave. 160, Bishkek | Kyrgyzstan UNDP Country Office – UNDP Senior Management | **Mr. Pradeep Sharma** - Deputy Resident Representative  **Mr. Kumar Kylychev** - EE Dimension Chief  **Mr. Daniar Ibragimov** - Policy Analyst |  |
| Wednesday, 15 July 2015, Cholpon-Ata, Issyk Kul | | | |  |
| 08:00 - 17.00 | Cholpon-Ata, Issyk Kul, Substation | OJSC National Electric Network of Kyrgyzstan | **Mr. Shapar V.** - Chief specialist JSC “*NES of Kyrgyzstan*  **Mr. Mirbek Esengulov** -Chief specialist, Ministry of Energy and Industry of the KR  **Mr. Kumar Kylychev** - EE Dimension Chief | **Tel:** +996 (312) 661-002 |
| 17:00 - 18:00 | Office of SAEPF, Toktogula str.229 | State Agency on Environment Protection and Forestry (SAEPF) under the Government of the Kyrgyz Republic | **Mr. Atadjanov S.** - GEF OFP, Director  **Mr. Tolongutov B.** - Director of Ecosafe of Environment Center  **Mr. Mamatairov B.** - Head of Department on Environmental Monitoring | **Mob:** +996 775 585 940  **Mob:** +996 773 907 744 |
| Thursday, 16 July 2015, Bishkek | | | |  |
| 08:00 – 09:00 | Frunze str., 535 (between Isanova str. and Manas ave.) | State Sanitary and Epidemiological Control Department under the Ministry of Healthcare | **Ms. Djumakanova A.** - Head of department on chemical-analytical research | **Mob:** +996 555 515 251 |
| 14:00 – 16:00 | Room 603, PMU office, Manas ave.101/1, Bishkek | All stakeholders | All stakeholders |  |
| Thursday, 17 July 2015, Bishkek | | | |  |
| Departure International Consultant from Bishkek International Airport, Kyrgyzstan at 6:20 am | | | | |

# ANNEX IV: SUMMARY OF FIELD VISITS

Within the scope of the Terminal Evaluation only one Field Visit was undertaken. The reason for this single field visit was to inspect ~ 50% of the PCB capacitors that had been identified as part of the project.

At the time of the TE, the SES laboratory had communicated that none of the 52 samples taken from 52 pieces of equipment (transformers) contained more than 50 ppm of PCBs. Therefore the only known PCB containing equipment in the country were 579 PCB containing capacitors (representing 34 tonnes) that were still in service in two NESK owned sub-stations, one in Cholpon-Ata, Issyk Kul and the other one close to the border with Uzbekistan.

The Evaluation Team, accompanied by the PMU/EE Dimension Chief (Mr. Kumar Kylychev); the PMU/EE’s Communication Focal Point (Mrs. Chinara Ryskulbekova); a representative of the Ministry of Energy and Industry of the KR (Mr. Mirbek Esengulov) and the Chief specialist JSC “NES of Kyrgyzstan” (Mr. Shapar V.) visited the Cholpon-Ata, Issyk Kul, Substation. The Field Visit consisted of access to the sub-station and a tour of the sub-station led by the chief/manager of the substation.

In the pictures below the reader can observe that all PCB containing capacitors are still installed. Even though a small percentage of them is not functional anymore (1%), they are kept installed as it is a safer option to store and safeguard them rather then taking them off-line and storing them elsewhere. All PCB capacitors have been numbered and labeled.

All equipment is under high voltage. Because the equipment is located in an electrical grid sub-station, which is well fenced, unauthorized people are not able to enter the substation.

Following the adoption of the Order of Ministry of Energy and Industry (No. 138 from 28 August, 2014) on “Rules on registration, exploitation and storage of equipment, materials and waste containing PCB”, NESK adopted these rules on a voluntary basis in March 2015. Subsequently it trained ~ 300 staff on the implementation of these rules.





# ANNEX V: LIST OF DOCUMENTS REVIEWED

**I. Project Documents**

* Signed UNDP ProDoc
* GEF Project Information Form (PIF), Project Document and Log Frame Analysis (LFA)
* Implementing/executing partner arrangements
* List and contact details for project staff, key project stakeholders, including Project Boards, and other partners to be consulted
* Meeting minutes of Yearly Progress Report Meetings as well as Project Board Meetings; Quarterly Progress Reports (QPRs)[[48]](#footnote-48); Annual Progress Reports (APRs) for 2011[[49]](#footnote-49)
* Midterm evaluation (MTE) related documentation
* Annual Project Implementation Reports (PIR) for 2011, 2012, 2013 and 2014.
* Project budget, broken down by outcomes and outputs
* Financial Data (Combined Delivery Report – CDRs; Annual Work Plans – AWP; Two Year Work Plans - TYWP[[50]](#footnote-50))
* Overview of co-financing received/mobilized per year
* Sample of project communications materials, i.e. press releases, brochures, documentaries, etc.
* Copies of pieces of legislation/regulations developed with the support of the project
* Guidance materials developed under the project

**II. UNDP Documents**

* Development Assistance Framework (UNDAF)
* Country Programme Document (CPD)
* Country Programme Action Plan (CPAP)

**III. GEF Documents**

* GEF focal area strategic program objectives

# ANNEX VI: EVALUATION QUESTION MATRIX

| **Evaluative Criteria Questions** | **Indicators** | **Sources** | **Methodology** |
| --- | --- | --- | --- |
| **Relevance: How does the project relate to the main objectives of the GEF focal area, and to the environment and development priorities at the local, regional and national levels?** | | | |
| * How does the Project support the objectives of the Stockholm Convention (SC) * How does the Project support the related strategic priorities of the GEF? | * Existence of a clear relationship between project objectives and GEF POPs focal area | * Project documents * GEF focal area strategies and documents | * Document analysis * GEF website * Interview with government, Project Team, UNDP and other project partners |
| * How does the Project support the development objectives of the Republic of Kyrgyzstan? * Does the Project adequately take into account the national realities, both in terms of institutional framework and programming, in its design and its implementation? * To what extent were national partners involved in the design and implementation of the Project? * Were the capacities of executing institutions and counterparts properly considered when the project was designed? * Does the Project participate in the implementation of the SC in Kyrgyzstan? * How country-driven is the Project? | * Degree of coherence between project objectives and national development priorities, policies and strategies * Level of involvement of government officials and other partners in project design and implementation * Coherence between needs expressed by national stakeholders and UNDP-GEF criteria | * Project documents * Kyrgyzstan POPs National Implementation Plan * Key project partners | * Document analyses * Interview with government officials and project partners |
| * How does the Project support the objectives of UNDP in this sector? | * Consistency between project objectives and UNDP strategies and development objectives | * Project document * UNDP strategies and programme | * Document analyses * Interviews with government, UNDP, other partners |
| * How does the Project support the needs of target beneficiaries? * Is the implementation of the Project been inclusive of all relevant Stakeholders? * Are local beneficiaries and stakeholders adequately involved in Project design and implementation? | * Strength of the link between expected project results from the project and the needs of relevant stakeholders * Degree of involvement and inclusiveness of stakeholders and beneficiaries in project design and implementation | * Project partners and stakeholders * Needs assessment studies * Project documents | * Document analysis * Interviews with relevant stakeholders |
| * Are there logical linkage between expected results of the project (log frame) and the project design (in terms of Project components, choice of partners, structure, delivery mechanism, scope, budget, use of resources etc.)? * Is the length of the project sufficient to achieve project outcomes? | * Level of coherence between expected project results and project design internal logic * Level of coherence between project design and implementation approach | * Program and project documents * Key project stakeholders | * Document analysis * Key interviews |
| **Effectiveness: To what extent have the expected outcomes and objectives of the project been achieved?** | | | |
| * Has the project been effective in achieving its expected outcomes? * Institutions and mechanism for project management and coordination; * Management information system (MIS) and information management; * Enabling policy environment; * Conversion from DDT-based antifouling paints to alternatives; * Environmental education and awareness raising; * Monitoring and evaluation. | * Indicators in project document results framework and logframe | * Project documents * Project Team and relevant stakeholders * Data reported in project annual and quarterly reports | * Document analysis * Interviews with Project Team * Interviews with relevant stakeholders |
| * What lessons have been learned from the project regarding achievement of outcomes? * What changes could have been made (if any) to the design of the project in order to improve the achievement of the project’s expected results? |  | * Data collected through evaluation | * Data analysis |
| **Efficiency: Was the project implemented efficiently, in-line with international and national norms and standards?** | | | |
| * Was adaptive management used or needed to ensure efficient resource use? * Did the project logical framework and work plans and any changes made to them use as management tools during implementation * Were the accounting and financial systems in place adequate for project management and producing accurate and timely financial information? * Were progress reports produced accurately, timely and responded to reporting requirements including adaptive management change? * Did the leveraging of funds (co-financing) happen as planned? * Was procurement carried out in a manner making efficient use of project resources? | * Availability and quality of financial and progress reports * Timeliness and adequacy of reporting provided * Planned vs. actual funds leveraged * Occurrence of change in project design / implementation approach (i.e. restructuring when needed to improve project efficiency) | * Project documents and evaluations * UNDP * Project Team | * Document analysis * Key interviews |
| * To what extent partnerships/linkages between institutions / organizations were encourage and supported * What partnerships/linkages were facilitated? Which ones can be considered sustainable? * What was the level of efficiency of cooperation and collaboration arrangements? | * Specific activities conducted to support the development of cooperative arrangements between partners * Examples of supported partnership? * Evidence that particular partnership/linkages will be sustained * Types/quality of partnership cooperation methods utilized | * Project documents and evaluations * Project partners and relevant stakeholders | * Document analysis * Interviews |
| * Did the project take into account local capacity in design and implementation of the project? * Was there an effective collaboration between institutions responsible for implementing the project? | * National expertise utilized * Number/quality of analysis done to asses local capacity potential and absorptive capacity | * Project documents and evaluations * UNDP * Beneficiaries | * Document analysis * Interviews |
| * What lessons can be learned from the project regarding efficiency? * How could the project have more efficiently carried out implementation (in terms of arrangement structures and procedures, partnership arrangements etc.)? * What change could have been made (if any) to the project in order to improve its efficiency)? |  | * Data collected throughout evaluation | * Data analysis |
| * How and to what extent have project implementation process, coordination with participating stakeholders and important aspects affected the timely project start-up, implementation and closure? | * Relationship and coordination mechanism of project partners * Timeliness of project activities implemented | * Project documents * Project Team and relevant stakeholders | * Document analysis * Key interviews |
| * Do the outcomes developed during the project formulation still represent the best project strategy for achieving the project objectives? | * Extent of relevance of project outcomes and objectives to changing circumstances | * Project documents * Project Team and relevant stakeholders | * Document analysis * Key interviews |
| * Does the project consult and make use of skills, experience and knowledge of the appropriate government entities, NGOs, community groups, private sector, local governments and academic institutions in the implementation and evaluation of project activities? | * National capacities utilized * Number/type of partnership formed | * Project documents * Project Team and relevant stakeholders | * Document analysis * Key interviews |
| **Sustainability: To what extent are there financial, institutional, social-economic, and/or environmental risks to sustaining long-term project results?** | | | |
| * Was project sustainability strategy developed during the project design? * How relevant was the project sustainability strategy? | * Evidence/quality of sustainability strategy * Evidence/quality of steps taken to address sustainability | * Project documents * Project Team and relevant stakeholders * Beneficiaries | * Document analysis * Key interviews |
| * Are there any financial risks that may jeopardize sustenance of project outcomes? What is the likelihood of financial and economic resources not being available once the GEF assistance ends (resources can be from multiple sources, such as the public and private sectors, income generating activities, and trends that may indicate that it is likely that in future there will be adequate financial resources for sustaining project’s outcomes)? | * Financial resources available after project completion to support and sustain project outcomes | * Project Team and relevant stakeholders * Project partners * Beneficiaries | * Document and data analysis * Key interviews |
| * Are there any social or political risks that may jeopardize sustenance of project outcomes? What is the risk that the level of stakeholder ownership will be insufficient to allow for the project outcomes/benefits be sustained? Do the various key stakeholders see that it is in their interest that the project benefits continue to flow? Is there a sufficient public/ stakeholder awareness in support of the long term objectives of the project? | * Social and political risk assessment data to support sustainability of project outcomes | * Project Team and relevant stakeholders * Project partners * Beneficiaries | * Document and data analysis * Key interviews |
| **Impact: Are there indications that the project has contributed to, or enabled progress toward, reduced environmental stress and/or improved ecological status?** | | | |
| * What are the main positive and negative impacts of the project? | * Project impacts (e.g. capacity, policy enabling framework, etc.) | * Project documents * GEF focal area tracking tools | * Document analysis * Key Interviews |
| * How has the project contributed to global environmental benefits or reductions in stress to ecological systems, or is there evidence that the project has put in place processes that will lead to such impact? | * Levels of reduction of POPs release * Systems, structures and capacities that contribute to changes in POPs release | * Project documents * GEF focal area tracking tools | * Document analysis * Key Interviews |

# ANNEX VII: Questionnaire used and summary of results

*Note: This is only a guide for the interviewers and a simplified version of the evaluation matrix. Not all questions will be asked to each interviewee; it is a reminder for interviewers about the type of information required to complete the evaluation exercise and a guide to prepare the semi-structured interviews.*

**I. RELEVANCE** - *How does the Project relate to the main objectives of the Stockholm Convention, UNECE POPs Protocol, GEF and to the environment and development challenges faced by Kyrgyzstan?*

1. Is the Project relevant to the SC, UNECE POPs Protocol and GEF objectives?
2. Is the Project relevant to UNDP objectives?
3. Is the Project relevant to Kyrgyzstan’s development objectives?
4. Does the Project address the needs of target beneficiaries?
5. Is the Project internally coherent in its design?
6. How is the Project relevant in light of activities supported by other donors?

***Future directions for similar projects***

1. What lessons have been learnt and what changes could have been made to the Project in order to strengthen the alignment between the Project and the Partners’ priorities and areas of focus?
2. How could the Project better target and address the priorities and development challenges of targeted beneficiaries?

**II. EFFECTIVENESS** – *To what extent are the expected outcomes of the Project being achieved?*

1. How is the Project effective in achieving its expected outcomes?
2. How is risk and risk mitigation being managed?
3. How are results and progress towards achieving project objectives being managed?

***Future directions for similar projects***

1. What lessons have been learnt for the project to achieve its outcomes?
2. What changes could have been made (if any) to the design of the Project in order to improve the achievement of the project’ expected results?
3. How could the project be more effective in achieving its results?

**III. EFFICIENCY** - *How efficiently is the Project implemented?*

1. Were the project roles properly assigned during project design?
2. Are the project roles in line with UNDP and GEF programming guidelines?
3. Were counterpart resources (funding, staff, and facilities), enabling legislation, and adequate project management arrangements in place at project entry?
4. Was adaptive management used or needed to ensure efficient resource use?
5. Did the Project logical framework and work plans and any changes made to them use as management tools during implementation?
6. Were the accounting and financial systems in place adequate for Project management and producing accurate and timely financial information?
7. Were progress reports produced accurately, timely and respond to reporting requirements including adaptive management changes?
8. Was Project implementation as cost effective as originally proposed (planned vs. actual)
9. Did the leveraging of funds (co-financing) happen as planned?
10. Were financial resources utilized efficiently? Could financial resources have been used more efficiently?
11. Was procurement carried out in a manner making efficient use of project resources?
12. How was RBM used during program and project implementation?
13. Were there an institutionalized or informal feedback or dissemination mechanism to ensure that findings, lessons learned and recommendations pertaining to Project design and implementation effectiveness were shared among Project stakeholders, UNDP and GEF Staff and other relevant organizations for ongoing Project adjustment and improvement?
14. Did the Project mainstream gender considerations into its implementation?
15. To what extent were partnerships/ linkages between institutions/ organizations encouraged and supported?
16. Which partnerships/linkages were facilitated? Which one can be considered sustainable?
17. What is the level of efficiency of cooperation and collaboration arrangements? (between local actors, UNDP/GEF and relevant government entities)
18. Was an appropriate balance struck between utilization of international expertise as well as local capacity?
19. Did the Project take into account local capacity in design and implementation of the Project?

***Future directions for the Project***

1. What lessons can be learnt from the Project on efficiency?
2. How can the project more efficiently address its key priorities (in terms of management structures and procedures, partnerships arrangements etc…)?

**IV. IMPACTS** - *What are the potential and realized impacts of activities carried out in the context of the Project?*

1. Will the project achieve its objective?
2. How is the Project effective in achieving the objectives of the SC and of the UNECE POPs Protocol such as impacts or likely impacts on the local environment; on poverty; and, on other socio-economic issues?

***Future directions for the Project***

1. How can the project build on its apparent successes and learn from its weaknesses in order to enhance the potential for impact of its own activities as well as other ongoing and future initiatives?

**V. SUSTAINABILITY** - *Are the initiatives and results of the Project allowing for continued benefits?*

1. Are sustainability issues adequately integrated in Project design?
2. Did the Project adequately address financial and economic sustainability issues?
3. Is there evidence that Project partners will continue their activities beyond Project support?
4. Are laws, policies and frameworks being addressed through the Project, in order to address sustainability of key initiatives and reforms?
5. Is the capacity in place at the national and local levels adequate to ensure sustainability of the results achieved to date?
6. Are Project activities and results being replicated elsewhere and/or scaled up?
7. What are the main challenges that may hinder sustainability of efforts?

***Future directions for the Project***

1. Which areas/arrangements under the project show the strongest potential for lasting long-term results?
2. What are the key challenges and obstacles to the sustainability of results of the project initiatives that must be directly and quickly addressed

# ANNEX VIII: EVALUATION CONSULTANT CODE OF CONDUCT AGREEMENT FORM – Mrs. Hilda van der Veen

Evaluators:

1. Must present information that is complete and fair in its assessment of strengths and weaknesses so that decisions or actions taken are well founded
2. Must disclose the full set of evaluation findings along with information on their limitations and have this accessible to all affected by the evaluation with expressed legal rights to receive results.
3. Should protect the anonymity and confidentiality of individual informants. They should provide maximum notice, minimize demands on time, and: respect people’s right not to engage. Evaluators must respect people’s right to provide information in confidence, and must ensure that sensitive information cannot be traced to its source. Evaluators are not expected to evaluate individuals, and must balance an evaluation of management functions with this general principle.
4. Sometimes uncover evidence of wrongdoing while conducting evaluations. Such cases must be reported discreetly to the appropriate investigative body. Evaluators should consult with other relevant oversight entities when there is any doubt about if and how issues should be reported.
5. Should be sensitive to beliefs, manners and customs and act with integrity and honesty in their relations with all stakeholders. In line with the UN Universal Declaration of Human Rights, evaluators must be sensitive to and address issues of discrimination and gender equality. They should avoid offending the dignity and self-respect of those persons with whom they come in contact in the course of the evaluation. Knowing that evaluation might negatively affect the interests of some stakeholders, evaluators should conduct the evaluation and communicate its purpose and results in a way that clearly respects the stakeholders’ dignity and self-worth.
6. Are responsible for their performance and their product(s). They are responsible for the clear, accurate and fair written and/or oral presentation of study limitations, findings and recommendations.
7. Should reflect sound accounting procedures and be prudent in using the resources of the evaluation.

**Evaluation Consultant Agreement Form** ([www.unevaluation.org/unegcodeofconduct](http://www.unevaluation.org/unegcodeofconduct))

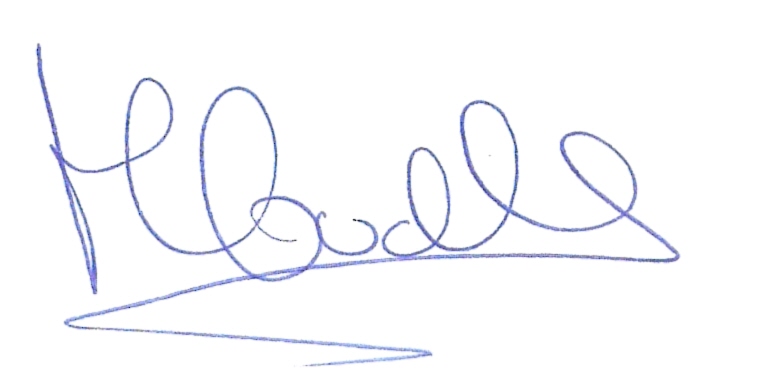
**Agreement to abide by the Code of Conduct for Evaluation in the UN System**

**Name of Consultant:** Hilda van der Veen

**Name of Consultancy Organization** (where relevant)**:** NA

**I confirm that I have received and understood and will abide by the United Nations Code of Conduct for Evaluation.**

Signed at **Mamaroneck, U.S.A.** on **11 July, 2015**

Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# ANNEX IX: REPORT CLEARANCE FORM

*(to be completed by CO and UNDP Technical Advisor based in the region and included in the final document)*

Evaluation Report Reviewed and Cleared by

UNDP Country Office

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

UNDP GEF RTA

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# ANNEX X: RATING SCALES

|  |  |  |
| --- | --- | --- |
| ***Ratings for Outcomes, Effectiveness, Efficiency, M&E, I&E Execution*** | ***Sustainability ratings:*** | ***Relevance ratings*** |
| Highly Satisfactory (HS): no shortcomings  Satisfactory (S): minor shortcomings  Moderately Satisfactory (MS)  Moderately Unsatisfactory (MU): significant shortcomings  Unsatisfactory (U): major problems  Highly Unsatisfactory (HU): severe problems | Likely (L): negligible risks to sustainability | Relevant (R) |
| Moderately Likely (ML): moderate risks | Not relevant (NR) |
| Moderately Unlikely (MU): significant risks  Unlikely (U): severe risks | ***Impact Ratings:***  Significant (S)  Minimal (M)  Negligible (N) |
| *Additional ratings where relevant:*  Not Applicable (N/A)  Unable to Assess (U/A | | |

# ANNEX XI: National and International Experts engaged by the project

Table 24: National and International Experts recruited to provide TA

|  |  |  |
| --- | --- | --- |
| **No.** | **Name** | **Scope of the Contract** |
| **Project Staff (SC)** | | |
| **1** | Salatanat Asan | Project Coordinator |
| **2** | Zhyldyz Uzakbaeva | Project Coordinator |
| **3** | ILIAZOV MIRBEK KACHKYNOVICH | Project Coordinator |
| **4** | MAMYTOVA NURAI TAALAIBEKOVNA | Project Assistant |
| **5** | Jyldyz Tynalieva | Project Assistant |
| **Individual contractors** | | |
| **1** | ABYLMEIZOVA BERMET UMUTKULOVNA | Calculations of PCB equipment cost |
| **2** | ANNA VASILIEVNA KIRILENKO | Gender expertise of Law |
| **3** | ASANOV JANYSH KANATOVICH | Study Programme for students |
| **4** | AZIZOV BAKHRIDIN TURSUNBAEVICH | Development documents for the storage of PCBs |
| **5** | BAIBOSUNOV NURLAN BEKTENOVICH | Legal examination of the transboundary movement of PCBs |
| **6** | BOBROV ALEKSANDR GENNADIEVICH | IC Project Assistant |
| **7** | BORTSOVA SVETLANA | Legal expert on PCB management |
| **8** | CHEBOTOVA NATALIA VIKTOROVNA | Legal due diligence of land for the storage of PCBs |
| **9** | CHISTYAKOVA IRINA ANAYOLEVNA | CARESD.net site |
| **10** | TAVASHAROV ERKIN KAZBEKOVICH | Inventory of PCBs equipment |
| **11** | MIRDZHALALOVA ZULFIZAR IMINZHONOVNA | Social expertise of Law |
| **12** | ILIAZOV MIRBEK KACHKYNOVICH | Life cycle analysis of PCBs |
| **13** | ELEMANOV OMURBEK ILIYASOVICH | Local Consultants-Technical |
| **14** | DJUMAEV ISAAK ABAKIROVICH | Expert on improving PCB management |
| **15** | OLEG VIKTOROVICH PECHENYUK | Legal expert on PCB management |
| **16** | RAZUVAEVA SVETLANA KONSTANTINOVNA | Translator |
| **17** | ROGOZHIN MICHAIL STEPANOVICH | Development of publications |
| **18** | OROZALIEV TURGUNBEK ALYMBEKOVICH | Adaptation of the training manual |
| **19** | IBRAEV KUBANYCH SHARSHEKEEVICH | Development of a training module in Kyrgyz |
| **20** | KADRALIEV ASKER KUDAIBERGENOVICH | Development of instructions |
| **21** | GAVRILOVA ELENA ALEKSEYEVNA | Legal expert on PCB management |
| **22** | MUSURALIEV TAALAYBEK KAMCHIBEKOVICH | Legal expert on PCB management |
| **23** | OROZALY UULU ZHANYBEK | Development of EIA |
| **24** | MURZAKANOV EDILBEK ZAKIROVICH | Development of warning signs |
| **25** | SLIVCHENKO LARISA EVGENYEVNA | Legal expert on PCB management |
| **26** | DIUNENBAEV NARYNBEK ABDYLDAYEVICH | Inventory of PCBs equipment |
| **27** | RYSKULBEKOVA CHYNARA MUHDIMBEKOVNA | site CARESD.Net translator |
| **28** | MARKKU AALTONEN JUHANI | International expert |
| **29** | MAKEEV TALAIBEK MUKASHOVICH | Development of three concepts on disposal of PCB |
| **30** | SHAPAR VITALIY PETROVICH | Inventory of PCBs equipment |
| **31** | MUSABEKOV MAKSAT ABDYBAKASOVICH | Development of a financial instrument |
| **32** | KOZHOGULOV NURDIN OROZBEKOVICH | Inventory of PCBs equipment |
| **33** | ISMAILOV USENBEK ABDYRASULOVICH | Inventory of PCBs equipment |
| **34** | KATAROV VIKTOR MIKHAILOVICH | Supporting establishment of the ICM |
| **35** | HOLOUBEK IVAN | International expert |
| **36** | ZHUMAKADYROVA GULNAZ TAALAIBEKOVNA | Economist |
| **37** | NASIROV ILGIZ KASHKAYEVICH | Legal expert on PCB management |
| **38** | ESENGULOV MIRBEK OMURBEKOVICH | Development of legal documents on PCB |
| **39** | DUDIN MIKHAIL ALEKSANDROVICH | Programmer |
| **40** | SASYKBAEVA ZHANYL OROZALIEVNA | Expert on land issues |
| **41** | MICKOVSKI ALEKSANDAR | International expert on transportation and storage of PCB equipment |
| **42** | DZHUMAKANOVA AIGUL BEISHEBAEVNA | Integration of methodology for PCB oil samples testing |
| **43** | HILDA VAN DER VEEN | International expert MTE |
| **44** | SATYBEKOV BAKYTBEK ERKINOVICH | Local Evaluator MTE |
| **Institutional contractors** | | |
| **1** | AEROPLAN CREATIVE ASSOCIATION LTD | Create Video film about PCB |
| **2** | CENTER FOR PUBLIC RESEARCH EL PIKIR | Social Reseach |
| **3** | DOOR MEDIA PUBLIC FOUNDATION | TV programme |
| **4** | ILIM NAUCHNO PROIZVODSTVENNOE OBEDINENIE | Delivery of technical equipment |
| **5** | ECOINVEST PROEKT LTD. | Educational technology |
| **6** | NAUCHNO-PROIZVOD. CENTER PROT-ECO INSTIT | The development of Macs for PCBs |
| **7** | EKOAUDIT LTD | PCB manual finalization |
| **8** | ENCO CENTRAL ASIA LTD. | Environmental assessment construction storage of PCBs |
| **9** | ILIM NAUCHNO PROIZVODSTVENNOE OBEDINENIE | Laboratory Equipment |
| **10** | ILIM NAUCHNO PROIZVODSTVENNOE OBEDINENIE | Elements and gases |
| **11** | ILIM NAUCHNO PROIZVODSTVENNOE OBEDINENIE | Controlling units or device |
| **12** | ILIM NAUCHNO PROIZVODSTVENNOE OBEDINENIE | Hand Tools |
| **13** | ECOINVEST PROEKT LTD. | Feasibility Assessment |
| **14** | UPRAVLENIE ARHITEKTURY I GRADOSTROITELST | Project Permitting Docs |
| **15** | EKOAUDIT LTD | PCB Legislation Improvement |
| **16** | ILIM NAUCHNO PROIZVODSTVENNOE OBEDINENIE | Training Gas Chromotograph |
| **17** | ILIM NAUCHNO PROIZVODSTVENNOE OBEDINENIE | PB Determination Method |
| **18** | ILIM NAUCHNO PROIZVODSTVENNOE OBEDINENIE | Laboratory Equipment PM14230 |
| **19** | CITYLAB LTD | TV programme |

# Annex XII: List of Project Partners

Table 25: List of Project Partners

|  |  |  |
| --- | --- | --- |
| **Stakeholder** | | **Mandate Related to PCB Management** |
| *Central Government* | | |
| Ministry of Energy and Industry  **(*Formerly the Ministry of Energy*)** | The Ministry is responsible for power development policy and issues related to standardization, metrology and tariff development.  It also carries out state supervision over the energy supplying organizations regardless of their form of property, officials and customers, connected to development, transfer, distribution and consumption of electricity, heat energy, compliance to normative legal acts of the Kyrgyz Republic, requirements on rules of using fuel, electricity and heat energy as well as safety exploitation of electrical equipment. | |
| State Inspection on Environmental and Technical Safety (SIETS)  **(*Formerly SIEG - State Inspection for Energy and Gas and before that State Electricity and Natural Gas Inspectorate*)** | Organizes and carries out the necessary measures for production and use chemicals in the fuel-energy complex and wastes processing.  It also carries out state supervision over the energy supplying organizations regardless of their form of property, officials and customers, connected to development, transfer, distribution and consumption of electricity, heat energy, compliance to normative legal acts of the Kyrgyz Republic, requirements on rules of using fuel, electricity and heat energy as well as safe exploitation of electrical equipment. | |
| State Agency for Environment Protection and Forestry (SAEPF) | Develops and implements policies for environmental protection, conservation of biological diversity and forest ecological systems, rational use of natural resources, sustainable development of mountain areas and assure the state's ecological security. It also organizes and implements government control over environmental protection and natural resources use and implements multilateral environmental agreements (MEAs).  Hosts the GEF OFP, and the Focal Point for Basel, Rotterdam and Stockholm. | |
| Ministry of Emergency Situations | Develops and implements policies to prevent industrial accidents. Its Mining and Technical Supervision Department (Gosgortehnadzor) is responsible to supervise the application and use of highly toxic substances in mining industry, and the State agency for Hydrology and Meteorology under the MES performs systematic weather, water resources, meteorological conditions, agricultural and pasture observations. It analyses state of environment and process trends. | |
| Ministry of Health | Develops and implements policies to prevent harmful influence of chemical substances on human health and people livelihoods, administers national registers of potentially toxic chemical substances in the country. It monitors pesticides including POPs. | |
| Ministry of Agriculture | Develops andadministerspolicies on the use of fertilizers and pesticides in agriculture. It also takes part in controlling water resources from chemical pollution. | |
| Ministry of Labor and Social Protection | Develops and implements policies related to occupational health associated with chemical production and use. | |
| Ministry of Transport and Communications | Implements necessary measures and develops rules on any type of transport of chemical substances. | |
| Ministry of Interior | Implements government control over illegal application of chemical substances. | |
| Ministry of Justice | Carries out governmental registration of all normative-legal statements related to chemical management. | |
| State Customs Inspectorate | Regulates exports and imports of chemical substances and toxic wastes. | |

# Annex XIII: Changes made to the project design and outputs

|  |  |  |
| --- | --- | --- |
| ***Outcome 1 (а)***: Comprehensive identification of PCBs in the country including in-service electrical equipment, PCB stockpiles/ wastes and potentially PCB contaminated sites maintained. | ***Outcome indicator (output) 1.1:***  Detailed inventory of PCB containing and contaminated equipment in service, existing PCB waste stockpiles and PCB contaminated sites in place in 2011. | ***Outcome indicator (output) 1.1***:  Detailed inventory of PCB containing and contaminated equipment in service, existing PCB waste stockpiles and PCB contaminated sites in place in 2012. |
| ***Outcome indicator (output) 1.2:***  Data management and mapping system operational and used for reporting in 2011. | ***Outcome indicator (output) 1.2:***  Data management and mapping system operational and used for reporting in 2012. |
| ***Outcome indicator (output) 1.3:***  Supply of 250 screening test kits and 4 portable analytical units with 10 personnel trained in their use by 2010. | ***Outcome indicator (output) 1.3:***  Supply of 250 screening test kits and 4 portable analytical units with 10 personnel trained in their use by 2012. |
| ***Outcome indicator (output) 1.4:***  Technical instructions for identification, sampling, maintenance, storage and disposal of PCB containing equipment in service and out of operation are in place in 2010. | ***Outcome indicator (output) 1.4:***  Technical instructions for identification, sampling, maintenance, storage and disposal of PCB containing equipment in service and out of operation are in place in 2012. |
| ***Outcome 2:***Development and implementation of priority regulatory measures to control the import/export, report, management and ultimate elimination of PCBs. | ***Outcome indicator (output) 2.1***:  Normative documents requiring registration, labeling and status reporting of potential all PCB and PCB containing materials in use in 2010. | ***Outcome indicator (output) 2.1***:  Normative documents requiring registration, labeling and status reporting of potential all PCB and PCB containing materials in use in 2012. |
| ***Outcome indicator (output) 2.2***:  Adoption of appropriate hazardous waste classification of PCBs and PCB contaminated materials in 2010. | ***Outcome indicator (output) 2.2***:  The classification has already been adopted.  This has already been done by the UNDP “Capacity Building for Implementation of Sustainable Waste Management Principles in the Kyrgyz Republic” Project. The Classification was approved by the Government Decree. |
| ***Outcome indicator (output) 2.3***:  Establishment of MACs for PCBs in environmental media, consistent with international standards in 2011. | ***Outcome indicator (output) 2.3***:  Establishment of MACs for PCBs in environmental media, consistent with international standards in 2012. |
| ***Outcome indicator (output) 2.4***:  Enactment of legal ban on new use, re- sue, trade, import and export of PCBs and PCB contaminated equipment and materials 2010. | ***Outcome indicator (output) 2.4****:*  Enactment of legal ban on new use, re- sue, trade, import and export of PCBs and PCB contaminated equipment and materials 2012. |
| ***Outcome indicator (output) 2.5***:  Legal measures allowing unrestricted regulatory access to information and locations that may have PCBs (wastes, stockpiles, PCB containing equipment and site contamination) in 2010. | ***Outcome indicator (output) 2.5***:  Legal measures allowing unrestricted regulatory access to information and locations that may have PCBs (wastes, stockpiles, PCB containing equipment and site contamination) in 2012. |
| ***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 indicator (output) 3.1***:  Basic national analytical capacity to analyze for PCBs operational with upgraded equipment installed and trained personnel in place (10 persons) by 2010. | ***Outcome indicator (output) 3.1***:  Basic national analytical capacity to analyze for PCBs operational with upgraded equipment installed and trained personnel in place (10 persons) by 2011. |
| ***Outcome indicator (output) 3.2:***  Strategy and plan for pre-treatment and disposal of PCB stockpiles and wastes in place in 2011. | ***Outcome indicator (output) 3.2***:  Strategy and plan for pre-treatment and disposal of PCB stockpiles and wastes in place in 2012. |
| ***Outcome 4:***Sustainable capacity to capture, package and securely store PCB stockpiles/ wastes and ESM disposal of priority stockpiles in accordance with environmental requirements. | ***Outcome indicator (output) 4.1***:  Secure storage capacity for PCB stockpiles and wastes at major holders’ sites and central sites (orphan material and equipment from sensitive locations) by 2012. | ***Outcome indicator (output) 4.1***:  Secure storage capacity for PCB stockpiles and wastes at major holders’ sites and central sites (orphan material and equipment from sensitive locations) by 2013. |
| ***Outcome indicator (output) 4.3***:  Trained and equipped service providers capable of undertaking packaging, transportation and residual contamination cleanup for PCB wastes including training of staff of 30 by 2010. | ***Outcome indicator (output) 4.3***:  Trained and equipped service providers capable of undertaking packaging, transportation and residual contamination cleanup for PCB wastes including training of staff of 30 by 2013. |
| ***Outcome indicator (output) 4.4***:  Disposal of 50 MT of PCB stockpiles by export to a qualified disposal facility by 2012. | ***Outcome indicator (output) 4.4***:  Disposal of 50 MT of PCB stockpiles by export to a qualified disposal facility by 2013. |

\_\_\_\_ **Changes made to the project design and outputs after the Inception Workshop (January 2011)**. The project’s Inception Workshop, presented the first opportunity after LPAC (February 2010) to assess and review the PLF. It was agreed during this Inception Workshop to slightly adapt the PLF, however the only changes made to it were related to the timing of “Time Bound” OVIs. Only one OVI related to the “adoption of appropriate hazardous waste classification of PCBs and PCB contaminated materials in 2010” was changed, considering a hazardous waste classification had already been adopted as part of an earlier waste management project.

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# ANNEX XIV: Results of 2nd phase of PCB Inventory

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **#** | **# of Reports** | **Name of sample** | **Date sample** | **Issue date of report** | **Name of enterprise and organizations** | | **Type of equipment** | **Total Weight [ton]** | **Weight oil**  **[ton]** | **Determining rates, mg/kg** | **Results of tests mg/kg or ppm** | **Allowable standard (AS) for methods of tests** |
| 1 | 28 "03" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Аct №01  as of 02.06.2014. | Osh high-voltage electricity network enterprise transmitting station "Pamir JSC "NESK" | ТМН-2500 | 21.27 | 8.45 | Aroclor 1016 | 26.04 | ГОСТ Р МЭК 61619-2013 |
| Aroclor 1242 | <5 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 2 | 29 "03" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Act №02 as of 02.06.2014. | Osh high-voltage electricity network enterprise transmitting station "Mangyt" JSC "NESK" | ТМН-2500-110-80-У1 | 21.3 | 8.5 | Aroclor 1016 | 25.20 | ГОСТ Р МЭК 61619-2014 |
| Aroclor 1242 | <5 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 3 | 30 "03" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Act №03 as of 02.06.2014. | Osh high-voltage electricity network enterprise transmitting station "Оsh-6" JSC "NESK" | ТМН-2500 | 21.27 | 8.45 | Aroclor 1016 | 26.04 | ГОСТ Р МЭК 61619-2015 |
| Aroclor 1242 | <5 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 4 | 31 "03" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Act №04 as of 02.06.2014. | Osh high-voltage electricity network enterprise transmitting station "Tuleiken" JSC "NESК" | ТМН-2500 | 21.27 | 8.45 | Aroclor 1016 | 24.06 | ГОСТ Р МЭК 61619-2016 |
| Aroclor 1242 | <5 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 5 | 32 "03" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Act №05 as of 03.06.2014. | Osh high-voltage electricity network enterprise transmitting station "Uzgen" JSC "NESК" | ТМН-2500-110-80-У1 | 21.3 | 8.5 | Aroclor 1016 | 24.41 | ГОСТ Р МЭК 61619-2017 |
| Aroclor 1242 | <5 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 6 | 33 "03" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Act №06 as pf 03.06.2014. | Osh high-voltage electricity network enterprise transmitting station "Sarytash" JSC "NESК" | ТДТН-10000-110-79У1 | 43.3 | 12.5 | Aroclor 1016 | 26.18 | ГОСТ Р МЭК 61619-2018 |
| Aroclor 1242 | <5 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 7 | 34 "03" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Act №07 as of 04.06.2014. | Osh high-voltage electricity network enterprise transmitting station "Naukat" JSC "NESK" | ТМН-2500-110-80-У1 | 21.3 | 8.5 | Aroclor 1016 | 25.72 | ГОСТ Р МЭК 61619-2019 |
| Aroclor 1242 | <5 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 8 | 35 "03" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Act №08 as of 05.06.2014. | JSC "Osh Electro" transmitting station "Isfana" | ТМГ-100-35 | 0.97 | 0.4 | Aroclor 1016 | 26.17 | ГОСТ Р МЭК 61619-2020 |
| Aroclor 1242 | <5 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 9 | 36 "03" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Act №09 as of 06.06.2014. | JSC "Osh Electro" transmitting station "Sulyuktа" | ТМГ-100-35 | 0.97 | 0.4 | Aroclor 1016 | 24.35 | ГОСТ Р МЭК 61619-2021 |
| Aroclor 1242 | <5 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 10 | 37 "03" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Act №10 as of 06.06.2014. | Jalal-Abad high-voltage electricity network enterprise transmitting station "Torobaeva" JSC "NESК" | ТМН-2500-110-80-У1 | 21.3 | 8.5 | Aroclor 1016 | 23.61 | ГОСТ Р МЭК 61619-2022 |
| Aroclor 1242 | <5 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 11 | 38 "03" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Act №11 as of 06.06.2014. | Jalal-Abad high-voltage electricity network enterprise transmitting station "Nizhnyaia" JSC "NESK" | ТМН-2500 | 21.27 | 8.45 | Aroclor 1016 | 26.21 | ГОСТ Р МЭК 61619-2023 |
| Aroclor 1242 | <5 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 12 | 39 "03" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Act №12 as of 07.06.2014. | Jalal-Abad high-voltage electricity network enterprise transmitting station "Kristal" JSC "NESК" | ТДТН-10000-110-79У1 | 43.3 | 12.5 | Aroclor 1016 | 25.52 | ГОСТ Р МЭК 61619-2024 |
| Aroclor 1242 | <5 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 13 | 40 "03" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Act №13 as of 07.06.2014. | Jalal-Abad high-voltage electricity network enterprise transmitting station "Shamaldy-Sai" JSC "NESК" | ТМН-2500-110-80-У1 | 21.3 | 8.5 | Aroclor 1016 | 23.9 | ГОСТ Р МЭК 61619-2025 |
| Aroclor 1242 | <5 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 14 | 41 "03" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Act №14 as of 08.06.2014. | Jalal-Abad high-voltage electricity network enterprise transmitting station "Tash-Kumyr" JSC "NESК" | ТДТН-10000-110-79У1 | 43.3 | 12.5 | Aroclor 1016 | 23.93 | ГОСТ Р МЭК 61619-2026 |
| Aroclor 1242 | <5 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 15 | 42 "03" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Act №15 as of 08.06.2014. | Jalal-Abad high-voltage electricity network enterprise transmitting station "Myrzazhan" JSC "NESК" | ТМН-2500 | 21.27 | 8.45 | Aroclor 1016 | 24.08 | ГОСТ Р МЭК 61619-2027 |
| Aroclor 1242 | <5 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 16 | 43 "03" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Act №16 as of 09.06.2014. | Jalal-Abad high-voltage electricity network enterprise transmitting station "Tash-Bulak" JSC "NESК" | ТДТН-10000-110-79У1 | 43.3 | 12.5 | Aroclor 1016 | 23.38 | ГОСТ Р МЭК 61619-2028 |
| Aroclor 1242 | <5 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 17 | 44 "02" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Act №17 as of 09.06.2014. | JSC "Kyrgyzneftgaz" Jalal-Abad region | ТМН-2500-110-80-У1 | 21.3 | 8.5 | Aroclor 1016 | 23.5 | ГОСТ Р МЭК 61619-2029 |
| Aroclor 1242 | <5 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 18 | 45 "02" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Act №18 as of 09.06.2014. | JSC "Jalal-Abadelctro" transmitting station "Teplokluchenka" | ТМН 6300\35У(УХЛ)1 | 13.2 | 4.5 | Aroclor 1016 | 23.55 | ГОСТ Р МЭК 61619-2030 |
| Aroclor 1242 | <5 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 19 | 46 "02" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Act №19 as of 10.06.2014. | JSC "Jalal-Abadelctro" transmitting station "Комsomol" | ТДНС 10000\35У(УХЛ)1 | 26 | 7 | Aroclor 1016 | 26.21 | ГОСТ Р МЭК 61619-2031 |
| Aroclor 1242 | <5 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 20 | 47 "02" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Act №20 as of 11.06.2014. | Chuy high-voltage electricity network enterprise transmitting station "Rodnoe" JSC "NESК" | ТМН-2500-110-80-У1 | 21.3 | 8.5 | Aroclor 1016 | 26.5 | ГОСТ Р МЭК 61619-2032 |
| Aroclor 1242 | <5 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 21 | 48 "02" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Act №21 as of 11.06.2014. | Chuy high-voltage electricity network enterprise transmitting station "Kayinda" JSC "NESК" | ТМН-2500 | 21.27 | 8.45 | Aroclor 1016 | 20.43 | ГОСТ Р МЭК 61619-2033 |
| Aroclor 1242 | 11.7 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 22 | 49 "02" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Act №22 as of 12.06.2014. | Chuy high-voltage electricity network enterprise transmitting station "Kosh-Tegirmen" JSC "NESК" | ТДТН-10000-110-79У1 | 43.3 | 12.5 | Aroclor 1016 | 27.24 | ГОСТ Р МЭК 61619-2034 |
| Aroclor 1242 | <5 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 23 | 50 "02" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Act №23 as of 13.06.2014. | Chuy high-voltage electricity network enterprise transmitting station "Moskovskaya" JSC "NESК" | ТМН-2500 | 21.27 | 8.45 | Aroclor 1016 | 25.41 | ГОСТ Р МЭК 61619-2035 |
| Aroclor 1242 | <5 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 24 | 51 "03" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Act №24 as of 13.06.2014. | Chuy high-voltage electricity network enterprise transmitting station "Ак-Suu" JSC "NESК" | ТМН-2500-110-80-У1 | 21.3 | 8.5 | Aroclor 1016 | 25.20 | ГОСТ Р МЭК 61619-2036 |
| Aroclor 1242 | <5 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 25 | 52 "03" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Act №25 as of 13.06.2014. | Chuy high-voltage electricity network enterprise transmitting station "Besh-Terek" JSC "NESК" | ТДТН-10000-110-79У1 | 43.3 | 12.5 | Aroclor 1016 | 25.76 | ГОСТ Р МЭК 61619-2037 |
| Aroclor 1242 | <5 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 26 | 53 "03" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Act №26 as of 14.06.2014. | Chuy high-voltage electricity network enterprise transmitting station "Sadovaya" JSC "NESК" | ТДТН-10000-110-79У1 | 43.3 | 12.5 | Aroclor 1016 | 23.31 | ГОСТ Р МЭК 61619-2038 |
| Aroclor 1242 | <5 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 27 | 54 "03" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Act №27 as of 14.06.2014. | Chuy high-voltage electricity network enterprise transmitting station "Chuyskaya" JSC "NESК" | ТМН-2500-110-80-У1 | 21.3 | 8.5 | Aroclor 1016 | 25.39 | ГОСТ Р МЭК 61619-2039 |
| Aroclor 1242 | <5 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 28 | 55 "03" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Act №28 as of 14.06.2014. | Chuy high-voltage electricity network enterprise transmitting station "KHP" JSC "NESК" | ТДТН-10000-110-79У1 | 43.3 | 12.5 | Aroclor 1016 | 25.62 | ГОСТ Р МЭК 61619-2040 |
| Aroclor 1242 | <5 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 29 | 56 "03" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Act №29 as of 14.06.2014. | Chuy high-voltage electricity network enterprise transmitting station "Ivanovka" JSC "NESК" | ТМН-2500-110-80-У1 | 21.3 | 8.5 | Aroclor 1016 | 25.24 | ГОСТ Р МЭК 61619-2041 |
| Aroclor 1242 | <5 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 30 | 57 "03" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Act №30 as of 14.06.2014. | JSC "Linolsum" Chuy region | ТНЗ-1600/10-75УЗ | 22.8 | 5.7 | Aroclor 1016 | 27.06 | ГОСТ Р МЭК 61619-2042 |
| Aroclor 1242 | <5 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 31 | 58 "03" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Act №31 as of 15.06.2014. | JSC "Interglass" Chuy region | ТНЗ-1000/10-71УЗ | 1.6 | 0.4 | Aroclor 1016 | 25.66 | ГОСТ Р МЭК 61619-2043 |
| Aroclor 1242 | <5 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 32 | 59 "03" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Act №32 as of 15.06.2014. | JSC "Altynken" Chuy region | GB-160 | 4 | 0.5 | Aroclor 1016 | 25.75 | ГОСТ Р МЭК 61619-2044 |
| Aroclor 1242 | <5 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 33 | 60 "03" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Act №33 as of 15.06.2014. | transmitting station "Botbaeva" JSC SeverElectro | ТМН 6300\35У(УХЛ)1 | 13.2 | 4.5 | Aroclor 1016 | 25.08 | ГОСТ Р МЭК 61619-2045 |
| Aroclor 1242 | <5 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 34 | 61 "03" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Act №34 as of 15.06.2014. | transmitting station "Orto-Alysh" JSC SeverElectro | ТДНС 10000\35У(УХЛ)1 | 26 | 7 | Aroclor 1016 | 25.85 | ГОСТ Р МЭК 61619-2046 |
| Aroclor 1242 | <5 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 35 | 62 "03" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Act №35 as of 16.06.2014. | Issyk-Kul high-voltage electricity network enterprise transmitting station "Vostochnaya" JSC NESК | ТМН-2500 | 21.27 | 8.45 | Aroclor 1016 | 25.40 | ГОСТ Р МЭК 61619-2047 |
| Aroclor 1242 | <5 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 36 | 115 "29"10 2015 | transformer oil | 7/3/14 | 29.10.2015г | Act №36 as of 16.06.2014 | Issyk-Kul high-voltage electricity network enterprise transmitting station "Prejevalskaya" JSC NESК | ТМН-2500 | 21.27 | 8.45 | Aroclor 1016 | 22.90 | ГОСТ Р МЭК 61619-2048 |
| Aroclor 1242 | <5 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 37 | 64 "03" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Act №37 as of 17.06.2014. | Issyk-Kul high-voltage electricity network enterprise transmitting station "Pristan"JSC NESК | ТМН-2500-110-80-У1 | 21.3 | 8.5 | Aroclor 1016 | 25.29 | ГОСТ Р МЭК 61619-2048 |
| Aroclor 1242 | <5 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 38 | 65 "03" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Act №38 as of 18.06.2014. | Issyk-Kul high-voltage electricity network enterprise transmitting station "Kun-Batysh" JSC NESК | ТДТН-10000-110-79У1 | 43.3 | 12.5 | Aroclor 1016 | 25.75 | ГОСТ Р МЭК 61619-2049 |
| Aroclor 1242 | <5 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 39 | 66 "03" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Act №39 as of 19.06.2014. | Issyk-Kul high-voltage electricity network enterprise transmitting station "Oy-Tal" JSC NESК | ТМН-2500-110-80-У1 | 21.3 | 8.5 | Aroclor 1016 | 25.3 | ГОСТ Р МЭК 61619-2050 |
| Aroclor 1242 | <5 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 40 | 67 "03" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Act №40 as of 19.06.2014. | Issyk-Kul high-voltage electricity network enterprise transmitting station "Kulmenty" JSC NESК | ТДТН-10000-110-79У1 | 43.3 | 12.5 | Aroclor 1016 | 26.24 | ГОСТ Р МЭК 61619-2051 |
| Aroclor 1242 | <5 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 41 | 68 "03" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Act №41 as of 19.06.2014. | transmitting station "Agakeeva" JSC VostokElectro | ТМН-2500 | 21.27 | 8.45 | Aroclor 1016 | 24.74 | ГОСТ Р МЭК 61619-2052 |
| Aroclor 1242 | <5 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 42 | 69 "03" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Act №42 as of 19.06.2014. | transmitting station "Uzhnaya" JSC VostokElectro | ТДНС 10000\35У(УХЛ)1 | 26 | 7 | Aroclor 1016 | 25 | ГОСТ Р МЭК 61619-2053 |
| Aroclor 1242 | <5 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 43 | 70 "03" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Act №43 as of 20.06.2014. | Naryn high-voltage electricity network enterprise transmitting station "Naryn-1" JSC NESК | ТМН-2500-110-80-У1 | 21.3 | 8.5 | Aroclor 1016 | 24.71 | ГОСТ Р МЭК 61619-2054 |
| Aroclor 1242 | 6.4 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 44 | 71 "03" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Аct №44 as of 21.06.2014. | Naryn high-voltage electricity network enterprise transmitting station "Jetigen" JSC NESK | ТМН-2500 | 21.27 | 8.45 | Aroclor 1016 | 27.92 | ГОСТ Р МЭК 61619-2055 |
| Aroclor 1242 | <5 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 45 | 72 "03" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Аct №45 as of 22.06.2014. | Naryn high-voltage electricity network enterprise transmitting station "Ala-Buka"JSC NESK | ТДТН-10000-110-79У1 | 43.3 | 12.5 | Aroclor 1016 | 25.28 | ГОСТ Р МЭК 61619-2056 |
| Aroclor 1242 | <5 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 46 | 73 "03" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Аct №46 as of 23.06.2014. | Naryn high-voltage electricity network enterprise transmitting station "Ugut" JSC NESK | ТМН-2500-110-80-У1 | 21.3 | 8.5 | Aroclor 1016 | 24.76 | ГОСТ Р МЭК 61619-2057 |
| Aroclor 1242 | <5 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 47 | 74 "03" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Аct №47 as of 23.06.2014. | Naryn high-voltage electricity network enterprise transmitting station "Ala-Too" JSC NESK | ТДТН-10000-110-79У1 | 43.3 | 12.5 | Aroclor 1016 | 24.34 | ГОСТ Р МЭК 61619-2058 |
| Aroclor 1242 | <5 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 48 | 75 "03" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Аct №48 as of 24.06.2014. | Talas high-voltage electricity network enterprise transmitting station "Semetey" JSC NESK | ТДТН-10000-110-79У1 | 43.3 | 12.5 | Aroclor 1016 | 25.46 | ГОСТ Р МЭК 61619-2059 |
| Aroclor 1242 | <5 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 49 | 76 "03" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Аct №49 as of 24.06.2014. | Talas high-voltage electricity network enterprise transmitting station "Kirovka"JSC NESK | ТМН-2500-110-80-У1 | 21.3 | 8.5 | Aroclor 1016 | 26.1 | ГОСТ Р МЭК 61619-2060 |
| Aroclor 1242 | 5.66 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 50 | 77 "03" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Аct №50 as of 24.06.2014. | Talas high-voltage electricity network enterprise transmitting station "Chat-Bazar"JSC NESK | ТМН-2500 | 21.27 | 8.45 | Aroclor 1016 | 37.1 | ГОСТ Р МЭК 61619-2061 |
| Aroclor 1242 | <5 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 51 | 78 "03" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Аct №51 as of 25.06.2014. | Talas high-voltage electricity network enterprise transmitting station "Ken-Kol" JSC NESK | ТМН-2500-110-80-У1 | 21.3 | 8.5 | Aroclor 1016 | 25.83 | ГОСТ Р МЭК 61619-2062 |
| Aroclor 1242 | <5 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
| 52 | 79 "03" 02 2015 | transformer oil | 7/3/14 | 29.10.2015г | Аct №52 as of 25.06.2014. | Talas high-voltage electricity network enterprise transmitting station "Ivanovo" JSC NESK | ТМН-2500 | 21.27 | 8.45 | Aroclor 1016 | 26.33 | ГОСТ Р МЭК 61619-2063 |
| Aroclor 1242 | <5 |
| Aroclor 1254 | <5 |
| Aroclor 1260 | <5 |
|  |  |  |  |  |  |  |  | 1314.95 | 445.75 |  |  |  |

# ANNEX XV: MANAGEMENT RESPONSES

1. According to the Combined Delivery Report (CDRs) as of 13 July 2015. [↑](#footnote-ref-1)
2. Based on the UNDP TRAC expenditures as of 13 July 2015, to which in-kind contributions from UNDP implemented projects have been added (irrespective of the donor). Please refer to Table 12 for more detailed information. [↑](#footnote-ref-2)
3. Highly Satisfactory (HS): no shortcomings; Satisfactory (S): minor shortcomings; Moderately Satisfactory (MS); Moderately Unsatisfactory (MU): significant shortcomings; Unsatisfactory (U): major problems; Highly Unsatisfactory (HU): severe problems. [↑](#footnote-ref-3)
4. Relevance is rated a on a 2-point Relevant/Not Relevant scale. [↑](#footnote-ref-4)
5. Likely (L): negligible risks to sustainability; Moderately Likely (ML): moderate risks; Moderately Unlikely (MU): significant risks; Unlikely (U): severe risks. [↑](#footnote-ref-5)
6. as well as four (4) private and semi-private companies [↑](#footnote-ref-6)
7. On 13 October 2015, after the evaluation had been concluded and the first draft of the TE report had been issued in September 2015, the PMU informed the evaluator that ME&I consulted with the Ministry of Economy which has removed the ban on the approval of technical regulations. As a result of this, ME&I is relaunching the process for approval of the technical regulations (circulation among governmental agencies). [↑](#footnote-ref-7)
8. <http://www.thegef.org/gef/sites/thegef.org/files/documents/ME_Policy_2010.pdf> [↑](#footnote-ref-8)
9. National Implementation Plan for the Stockholm Convention on Persistent Organic Pollutants, Bishkek 2006, http://chm.pops.int/Implementation/NIPs/NIPSubmissions/tabid/253/Default.aspx [↑](#footnote-ref-9)
10. An agency under the current Ministry of Industry, Energy and Fuel Resources but which will be transferred under the new Ministry of Energy in a current government re-structuring. [↑](#footnote-ref-10)
11. http://www.undp.ro/download/UNDP%20and%20the%20Stockholm%20Convention%202009.pdf [↑](#footnote-ref-11)
12. The project had informed NESK that based on labeling and documentation these PCB capacitors would contain PCBs. NESK in turn had 2 out-of-service capacitors analyzed in a laboratory in Kazakhstan. Test results indicated that indeed this type of capacitor contained PCBs. [↑](#footnote-ref-12)
13. Request for the first extension till the 31 December 2014 was made in the middle of 2014 (PB minutes dated June 13, 2014) and a second extension was requested (and granted) from 31 December 2014 until the June 30, 2015. [↑](#footnote-ref-13)
14. The project had informed NESK that based on labeling and documentation these PCB capacitors would contain PCBs. NESK in turn had 2 out-of-service capacitors analyzed in a laboratory in Kazakhstan. Test results indicated that indeed this type of capacitor contained PCBs. [↑](#footnote-ref-14)
15. An open-ended international tender was launched that requested bids for the disposal of a variety of options for PCB containing equipment and wastes (20, 34 and/or 50 tonnes) as well as variety of export options (place directly to European disposal facility, or by train to Kazakhstan to be exported from there by plane to a European disposal facility) [↑](#footnote-ref-15)
16. An open-ended international tender was launched that requested bids for the disposal of a variety of options for PCB containing equipment and wastes (20, 34 and/or 50 tonnes) as well as variety of export options (place directly to European disposal facility, or by train to Kazakhstan to be exported from there by plane to a European disposal facility) [↑](#footnote-ref-16)
17. February 2012; June 2013; July 2013; November 2013; December 2013; April 2014 and June 2014. [↑](#footnote-ref-17)
18. As per the co-financing letter issued by the Ministry of Industry, Energy and Fuel Resources, the Ministry pledged 450,000 US$ of in kind co-financing in the form of two (2) storage facilities for PCB wastes. Storage facilities would be sufficiently large to accomodated the PCB wastes as identified during the preliminary inventory. However, in case additional PCBs would be identified during the inventory, the Ministry would provided 625,282 US$ of in-kind co-financing in the form of storage facilities for PCB wastes. [↑](#footnote-ref-18)
19. As per the co-financing letter issued by the UNDP Country Office, 80,000 US$ in cash and 20,000 US$ in kind was pledged. [↑](#footnote-ref-19)
20. Up until 31 December 2012 – UNDP TRAC provided 74,680.76 in cash co-financing as per the CDR received. [↑](#footnote-ref-20)
21. At the time of the TE, an additional 40,000 US$ had been provided as in-kind contribution, in the form of the salaries of the a.i. Project Coordinators, a.i Project Assistants whole 2014, % of the time of the PMU Dimension Chief. [↑](#footnote-ref-21)
22. This co-financing letter in the amount of 16,000 US$ could not be located. [↑](#footnote-ref-22)
23. 50,000 US$ in kind co-financing, as per the co-financing letter issued by SIEG. [↑](#footnote-ref-23)
24. 35,000 US$ in-kind co-financing, as per the co-financing letter issued by the UNDP Waste Management Project. [↑](#footnote-ref-24)
25. Represents in-kind financing from the Ministry of Energy for the allocation of the site for the construction of a PCB storage facility. [↑](#footnote-ref-25)
26. Represents the financing for the refurbishment of the laboratory room where the GC will be installed. [↑](#footnote-ref-26)
27. Represents co-financing in the form of 50% of the Project Coordinator’s [May-June 2015]. [↑](#footnote-ref-27)
28. The 2015 CDR summarizes expenditures up to 13 July, 2015 [↑](#footnote-ref-28)
29. The difference of 30,000 US$ will have to cover costs for the TE as well as costs for the retesting of some of the PCB oil samples. [↑](#footnote-ref-29)
30. Quarterly Progress Reports (QPRs) are available up to Quarter I of 2012. The use of QPRs was discontinued after Quarter I of 2012. [↑](#footnote-ref-30)
31. Annual Progress Reports (APRs) were discontinued for GEF projects and replaced by the PIR. [↑](#footnote-ref-31)
32. Calculated based on the information that 1,458 capacitors contain 34.5 tonnes of PCB oil, then 597 capacitors would be estimated to contain 14.1 tonnes of PCB oil. [↑](#footnote-ref-32)
33. <https://www.youtube.com/watch?v=GkBQOP2lzgQ&feature=youtu.be> and <https://www.youtube.com/watch?v=cjO5sVSG4-k&feature=youtu.be> [↑](#footnote-ref-33)
34. Ultimately, final export of the 80 tonnes (two planes) took place in June 2015. [↑](#footnote-ref-34)
35. The difference of 30,000 US$ will have to cover costs for the TE as well as costs for the retesting of some of the PCB oil samples. [↑](#footnote-ref-35)
36. National Implementation Plan for the Stockholm Convention on Persistent Organic Pollutants, Bishkek 2006, http://chm.pops.int/Implementation/NIPs/NIPSubmissions/tabid/253/Default.aspx [↑](#footnote-ref-36)
37. This is the total baseline inventory in the country before disposal operations. It might be a preliminary inventory such as possibly at concept stage; or a more detailed inventory such as is typically prepared during project development or as an early activity during project implementation.

    Updated more accurate information should replace the first estimates as it becomes available - in that case, please indicate that the information has been updated relative to a previous entry in the "comments" column. [↑](#footnote-ref-37)
38. 0 = Not applicable: not an objective of the project; 1 = ESM plan has been developed; 2 = infrastructure and logistics in place to permit implementation; 3 = ESM of PCBs budgeted and implemented. [↑](#footnote-ref-38)
39. 0 = Not applicable : not an objective of the project; 1 = Legislative/regulatory measures drafted or revised; 2 = Legislative/regulatory measures adopted but not enforced; 3 = Legislative/regulatory measures implemented/enforced with corresponding budget. [↑](#footnote-ref-39)
40. as well as four (4) private and semi-private companies [↑](#footnote-ref-40)
41. On 13 October 2015, after the evaluation had been concluded and the first draft of the TE report had been issued in September 2015, the PMU informed the evaluator that ME&I consulted with the Ministry of Economy which has removed the ban on the approval of technical regulations. As a result of this, ME&I is relaunching the process for approval of the technical regulations (circulation among governmental agencies). [↑](#footnote-ref-41)
42. For additional information on methods, see the [Handbook on Planning, Monitoring and Evaluating for Development Results](http://www.undp.org/evaluation/handbook), Chapter 7, pg. 163 [↑](#footnote-ref-42)
43. A useful tool for gauging progress to impact is the Review of Outcomes to Impacts (ROtI) method developed by the GEF Evaluation Office: [ROTI Handbook 2009](http://www.thegef.org/gef/sites/thegef.org/files/documents/M2_ROtI%20Handbook.pdf) [↑](#footnote-ref-43)
44. www.unevaluation.org/unegcodeofconduct [↑](#footnote-ref-44)
45. The Report length should not exceed *40* pages in total (not including annexes). [↑](#footnote-ref-45)
46. UNDP Style Manual, Office of Communications, Partnerships Bureau, updated November 2008 [↑](#footnote-ref-46)
47. Using a six-point rating scale: 6: Highly Satisfactory, 5: Satisfactory, 4: Moderately Satisfactory, 3: Moderately Unsatisfactory, 2: Unsatisfactory and 1: Highly Unsatisfactory, see Guidelines for conducting Terminal evaluations: http://www.thegef.org/gef/node/1905. [↑](#footnote-ref-47)
48. Quarterly Progress Reports (QPRs) are available up to Quarter I of 2012. The use of QPRs was discontinued after Quarter I of 2012. [↑](#footnote-ref-48)
49. Annual Progress Reports (APRs) were discontinued for GEF projects and replaced by the PIR. [↑](#footnote-ref-49)
50. Never practiced by UNDP Kyrgyzstan or the project [↑](#footnote-ref-50)