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

# 1. Project Data

| Summary project data | | | |
|---|---|---|---|
| **GEF project ID** | | 2816 | |
| **GEF Agency project ID** | | 3477 | |
| **GEF Replenishment Phase** | | GEF-4 | |
| **Lead GEF Agency (include all for joint projects)** | | UNDP | |
| **Project name** | | Design and Execution of a Comprehensive PCB Management Plan for Kazakhstan | |
| **Country/Countries** | | Kazakhstan | |
| **Region** | | Europe and Central Asia | |
| **Focal area** | | Persistent Organic Pollutants | |
| **Operational Program or Strategic Priorities/Objectives** | | SP1: Strengthening Capacities for NIP Implementation<br>SP2: Partnering in Investments for NIP Implementation | |
| **Executing agencies involved** | | Ministry of Environmental Protection (later became the Ministry of Environment and Water Recourses and then it became the Ministry of Energy) | |
| **NGOs/CBOs involvement** | | NGOs thorough consultations | |
| **Private sector involvement** | | Private companies as beneficiaries | |
| **CEO Endorsement (FSP) /Approval date (MSP)** | | January 5, 2010 | |
| **Effectiveness date / project start** | | February 23, 2010 | |
| **Expected date of project completion (at start)** | | December 31, 2014 | |
| **Actual date of project completion** | | August 31, 2015 | |
| **Project Financing** | | | |
| | | **At Endorsement (US $M)** | **At Completion (US $M)** |
| **Project Preparation Grant** | GEF funding | 0.145 | 0.145 |
| | Co-financing | 0.105 | 0.105 |
| **GEF Project Grant** | | 3.30 | 3.30 |
| **Co-financing** | IA own | 0.015 | 0.015 |
| | Government | 10.9 | 10.54 |
| | Other multi- /bi-laterals | | |
| | Private sector | 6.62 | 4.40 |
| | NGOs/CSOs | | |
| **Total GEF funding** | | 3.45 | 3.45 |
| **Total Co-financing** | | 17.64 | 15.06 |
| **Total project funding (GEF grant(s) + co-financing)** | | 21.09 | 18.51 |
| **Terminal evaluation/review information** | | | |
| **TE completion date** | | September 2015 | |
| **Author of TE** | | Hilda van der Veen & Olga Klimanova | |
| **TER completion date** | | March 3, 2016 | |
| **TER prepared by** | | Matteo Borzoni | |
| **TER peer review by (if GEF IEO review)** | | Molly Watts | |

## 2. Summary of Project Ratings

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

## 3. Project Objectives

3.1 Global Environmental Objectives of the project:

The Global Environmental Objective of the project was "to ensure minimization of PCB releases and subsequent health and environmental impacts through systematic capacity development for sound PCB management in the country." (ProDoc, p. 1).

Polychlorinated Biphenyls (PCBs) are an important environmental and health hazard in Kazakhstan. The country has inherited PCB contaminated equipment and oil from when it was part of the Soviet Union, at which time it hosted a number of strategic industries and defense facilities. During Soviet times, such facilities procured stable electric equipment, which during the 1960s – 1980s production period were very likely to contain PCBs.

One of the few PCB capacitors production facilities in the Newly Independent States (NIS) was located in Kazakhstan (Ust-Kamenogorsk) and was producing a significant portion of all PCB containing capacitors in the NIS. Improper handling of PCB oils during the production caused significant pollution of the Ust-Kamenogorsk area.

The preliminary PCB inventory, conducted in preparation of the National Implementation Plan (NIP) in 2009, indicated that there were a total of 56,000 capacitors containing approximately 757 tons of PCBs, stored in almost 2,500 tons of contaminated equipment. In addition, the inventory identified 113 PCB containing transformers and an additional potential 26 PCB holders submitted data on 356 transformers that potentially could contain PCBs.

According to a PCB inventory conducted in Eastern Europe and the former Soviet Union, the Republic of Kazakhstan ranked second among the Countries with Economy in Transition (CEIT) with a total of 980 tons of PCB contaminating oils and 250,000 tons of PCB contaminated soils.

As such the project aimed to address the four main barriers to the safe and sustainable management of PCBs and replacement of PCB containing equipment, namely: legal barriers, awareness barriers, technical barriers, and economic barriers.

3.2 Development Objectives of the project:

The Development Objective of the project was to "To enhance the capacity for safe management of PCB oil and PCB-containing equipment at all stages of the PCB management cycle in Kazakhstan" (ProDoc, p. 36).

In addition the project strategy included the following expected outcomes:

- Regulatory and administrative strengthening for sound PCB management
- Capacity building for sound PCB management, identification of additional PCB sources
- Replacement, setting-up safe dismantling of 850 tons of PCB trans-formers and their safe disposal
- Regionally organized secure storages and disposal of PCB capacitors

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

The project proposal envisaged a trans-boundary movement of PCB containing waste, which resulted to be impossible. The only remaining solution was to export PCB waste by air. The project had to reduce the amount of PCB that it initially anticipated disposing of, because air transportation is much more expensive.

## 4. GEF IEO assessment of Outcomes and Sustainability

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

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

Please justify ratings in the space below each box.

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| 4.1 **Relevance** | Rating: Satisfactory |

The TE rated relevance was "Relevant". This TER uses a different scale and rates relevance as "Satisfactory".

The project is very relevant to the Objective of the Stockholm Convention: "*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 (POP) focal area 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, and consequently to contribute generally to capacity development for the sound management of chemicals (SMC).

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 Kazakhstan's National Implementation Plan, included as PCB activities outlined in the NIP Action Plan, were addressed by the project.

Finally, the project was in line with national environmental policies, which focus on reducing pollution and eliminating pressure and impacts on human health and the environment. More specifically, the project was in line with: the *Concept for Environmental Safety* (2004-2015), the *Concept for the Transition of the Republic of Kazakhstan to Sustainable Development* (2007 – 2024), the *Program on Environmental Protection of the Republic of Kazakhstan* (2008 – 2010) and the *Concept for the Transition of the Republic of Kazakhstan to a Green Economy* (2013-2020).

| 4.2 **Effectiveness** | Rating: Moderately satisfactory |
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The TE rated effectiveness as "Satisfactory" and this TER downgrades that rating to "Moderately Satisfactory". This is because, although three of the four outcomes will be achieved, the fourth outcome entailed the disposal of 600 tons of PCB equipment and waste, but the great majority of this will not be disposed.

The first outcome of the project was about regulatory and administrative strengthening. The project was expected to propose changes in environmental codes and associated laws that were supposed to be adopted by the government. In this regard, the project proposed 17 amendments on POPs management to the Ecological Codex (EcoCode), 11 of which were adopted. Further seven additional amendments to the EcoCode were later proposed (their approval was still pending when the TE was conducted). Also three amendments to the "*Standard List of Environmental Activities*" (applicable to economic entities) were submitted and approved by the Ministry of Environmental Protection (MEP). "*Rules for handling persistent organic pollutants (POPs) and POPs containing waste*" were submitted and approved again by the MEP. For the first outcome the project was also supposed to develop technical guidance implementing PCB regulative framework. In this regards, eight guidelines were developed but only five of them were approved by the Scientific Council. The project was also supposed to develop PCB environmental and food quality guidelines. With the support of the Ministry of Health the project submitted an official request for the adoption of maximum allowable concentration (MAC) values for

PCBs into official sanitary rules and norms, however the Ministry of Justice refused to approve these MAC values without additional national research.

The second outcome was about capacity building for sound PCB management. The project was supposed to deliver trainings on PCB management. The expectation was that at the end of the project all PCB holding companies would have developed a PCB management plan. 150 representatives of companies firms and enterprises were trained on PCB management issues. At the time when the TE was drafted, 2 PCB management plans had been submitted, and 8 PCB management were drafted out of the 20 companies in Kazakhstan which are known to hold PCBs. In addition, 100 additional companies initiated PCB inventories. Also, the project provided support to the Ministry of Defense through the training of 38 representatives. A comprehensive laboratory-training component was developed with support of the Czech Research Centre for Toxic Compounds in the Environment (RECETOX), which included preparation of methodologies for the analysis of PCBs in soil and liquid. A study tour to RECETOX in Czech Republic (Nov 2011) was organized. Finally, five laboratories were accredited for PCB analysis in oil, three in soil, one in food and four in water.

For the third outcome the project was supposed to replace and set-up a safe dismantling of 850 tons of PCB transformers. The project ensured the safe disposal and storage of 750 tons of PCB contaminated oil and associated wastes. The quantity of tons safely disposed at the end of the project was slightly lower the original target. However, it should be considered that project faced significant challenges due to the trans-boundary movements of the PCB wastes and the ultimately high costs for air transportation.

The fourth outcome related to the organization of storage and disposal of PCB capacitors at regional level. The project planned to train storage personnel about safe handling, fire, spill containment. 24 workers from storage and disposal companies participated in such trainings. The project also envisaged that 600 tons of PCB equipment and waste were disposed. At the time when the TE was conducted only 150 tons were stored and ready for transportation and disposal in France. This is because a great part of PCB equipment and waste were from specific capacitors (in a site named Darial-U) whose disposal was supposed to take place through cash co-financing provided by the government, which ultimately did not materialize.

In conclusion the project was able to demonstrate and build capacity for all stages required for the sound management and disposal of PCBs, covering the development and strengthening of the regulatory and policy framework for PCB management as well as PCB inventories, PCB analysis, PCB equipment and waste storage, collection, transportation, packaging and disposal.

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| 4.3 **Efficiency** | Rating: Satisfactory |

The TE rated efficiency as Moderately Satisfactory. This TER upgrades that rating to "Satisfactory". This is because the high cost incurred by the project for waste disposable was not due to an improper management of the project, but to a deficiency in the project design.

The project design envisaged land-based export of PCB containing waste, which resulted to be impossible. The only remaining solution for the project was to export PCB waste by air. However, air transportation was much more expensive (7,343 US$ per ton of PCB oil and 6,666 US$ per ton of PCB capacitors versus an average of 3,300 US$ per ton estimated during project preparation for assumed land-based export) (TE, p. 55).

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 was based on the best quality/cost ratio for all project activities including selection of services and equipment, (TE, p. 44).

| 4.4 **Sustainability** | Rating: Moderately unlikely |
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The TE rated sustainability as "Likely". This TER downgrades that rating to "Moderately unlikely" because the project's financial sustainability is low.

Financial sustainability was rated by the TE as "Moderately unlikely". This TE agrees with that rating. After the project end, PCB holders will be solely responsible to carry the costs for inventories (including costs for analysis), phase-out of PCB equipment and replacement by non-PCB equipment, as well as transportation and disposal costs at an approved disposal facility. These costs – depending on the size of the inventory – can be considerable, and are much harder to bear for national companies than for internationally owned companies. There are currently no financial incentives in place for PCB holders and it is expected that especially national holders might wait as long as possible to phase-out and dispose of PCB containing equipment. It is assumed that most companies will await the Hazardous Waste Facility in Kazakhstan to become operational, as transportation for disposal abroad is very costly, although some of the international holders might dispose of PCB waste at a more rapid pace, as in certain cases they are to abide by corporate targets. However, the Government of Kazakhstan allocated 30 million US$ for the implementation of environmental issues through UNDP and this funding might present an opportunity to address PCB issues in the future. Also the *Concept for the Transition of the Republic of Kazakhstan to a Green Economy (with is official Action Plan)* contains 1 chapter on Waste Management, with priorities on SMC and PCBs along with financial resources for its implementation.

Socio-political sustainability was rated as "Likely" and this TER agrees with that rating. 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.

The sustainability of the institutional framework and governance was rated as "Likely" by the TE and this TER agrees with that rating. The amendments made to the Ecological Codex whose approval was still pending when the TE was conducted are likely to be accepted. They will facilitate a sound management of PCBs and inspections beyond the project's duration. However, penalties for breaking environmental laws are very low. Companies will only have to abide to the deadlines of completing their PCB management plans by 2018. Moreover, regional ecological department have a limited technical capacity to ensure compliance (verifying inventory reports) and PCB holder do not have to manage PCB waste according to guidelines as long as the equipment is not listed as a waste. Future training and capacity building in the area of PCB management can be provided by NGOs and consulting companies. In general terms the TE considers that there is sufficient in-country human and laboratory capacity for POPs and PCB management. Finally government responsibilities for PCB management are clearly identified. The environment agency "Zhasyl Damu Company" (under the Ministry of Energy) has in its program and budget, specific tasks, activities and priorities related to PCBs.

Environmental sustainability was rated as Likely by the TE and this TER agrees with that rating. The tons of wastes disposed of will never again pose an environmental risk. On the other hand it will be important to ensure that solutions are found at national level to decontaminate drained PCB electrical equipment, to avoid that such equipment eventually is reused in an unsafe manner.

# 5. Processes and factors affecting attainment of project outcomes

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

The project leveraged approximately 2.6 million US$ in co-financing less than anticipated in the original project budget. This was due to the fact that one company (Juventa DB) did not participate in the project (its expected co-financing was 3 million USD). Moreover, the co-financing provided by another company (AMT) resulted to be lower than expected (580,458 USD against 3,475,000 USD) (TE, p. 19). The result was that the number of transformers actually replaced and phased out was 25 against a target of 107.

The TE considers (p. 19) that none of these co-financing changes significantly impacted the success of the project activities for which this co-financing was intended. However, one of the project activities that was severely impacted by the non-materialization of co-financing was the disposal of the Darial-U capacitors (see effectiveness section). When the TE was drafted the 5,946 PCB containing capacitors remained on their original site, because the cash co-financing for their repackaging, transport and disposal was no longer available.

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

The total project duration lasted eight months more than planned. The main reason was that before exporting PCB waste by air the project explored various transportation routes.

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

Kazakhstan is committed to the safe management of PCBs as demonstrated by the signature of the Stockholm Convention and its subsequent ratification.

With the financial support of the GEF and Technical Assistance provided by UNDP, Kazakhstan started the preparation of its National Implementation Plan (NIP) in 2004. The NIP on the obligations under the Stockholm Convention on POPs was finalized and approved in 2009. As mentioned in the Relevance section the project was developed in line with the priorities and activities for PCB management as defined and approved in the National Action Plan.

In addition, country ownership can be assumed from the following actions supported by the government (TE, p. 44):

- Approval of amendments to the EcoCode, adoption of a regulation for the management of POPs (and PCBs)
- Allocation of government co-financing (about 10 million USD) that was predominantly used for the disposal capacitors.
- Transfer of the ownership of legacy PCB and POPs wastes (e.g. remaining PCB capacitors at the Darial-U site) to a company operating under the Ministry of Energy, which is responsible for the implementation of measures and projects for the destruction and disposal of economically unattractive wastes.
- Feasibility study on the establishment of a Hazardous Waste Disposal Facility (with World Bank and GEF support "Elimination of POPs Wastes"), expected to be operational by 2020.
- Commitment to continuous improvement of the management of POPs, through the approval and implementation of the GEF/UNDP POPs project "*NIP Update, Integration of POPs into National Planning and Promoting Sound Healthcare Waste Management in Kazakhstan*".
- Mainstreaming of PCB and hazardous waste issues into *Concept for the Transition of the Republic of Kazakhstan to a Green Economy* and inclusion of a chapter exclusively on waste.

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

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

Please justify ratings in the space below each box.

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

The Monitoring and Evaluation plan as described in the Project Document was very comprehensive and in line with the UNDP rules and procedures for Monitoring and Evaluation of (GEF) projects. It clearly identified monitoring responsibilities and the reporting structure, along with other main evaluation tools such as mid-term and a final evaluation. It also specified the budget for each element of the M&E plan.

| 6.2 **M&E Implementation** | Rating: Satisfactory |
|---|---|

The TE rated the M&E design at entry as "Satisfactory" and this TER agrees with that rating.

M&E implementation is barely discussed in the TE. However, as each output is properly measured in the TE, M&E implementation is assessed as satisfactory. In addition, all PIRs were submitted on time and are clear and informative.

The Mid-term evaluation was properly conducted. Most of the MTE's recommendations were accepted and the project implemented adequate measures to redirect the project accordingly. This suggests that M&E system was used for adaptive management.

## 7. Assessment of project implementation and execution

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

Please justify ratings in the space below each box.

| | |
|---|---|
| 7.1 **Quality of Project Implementation** | Rating: Moderately satisfactory |

UNDP was the project implementing agency. The TE rated the quality of Project Implementation as "Satisfactory" and this TER downgrades that rating to "Moderately Satisfactory . Although quality of project implementation during project life was positive, the project design was based on unrealistic assumptions regarding the feasibility of trans-boundary movement of PCB containing wastes

The TE barely discuss the Quality of Project Implementation. In any case, the delay in project implementation was minimal and not due implementation deficiencies. UNDP properly monitored the project and assured a correct use of GEF funds.

The intervention logic of the project design was coherent. Outputs were clearly specified and were conducive to the expected outcomes. A comprehensive mitigation plan was developed. However, The original design planned a trans-boundary movement of PCB containing waste, which resulted to be impossible. The only possible solution was air transportation, which was much more expensive. As a consequence, the project had to reduce the amount of PCB to be disposed than originally planned

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| 7.2 **Quality of Project Execution** | Rating: Satisfactory |

The project executing agency was the Ministry of Environment and Water Resources. The TE rated Quality of Project Execution as "Satisfactory" and this TER agrees with that rating.

The project did not face mayor execution issues, excluding the challenge in finding a route for waste exports (for which a solution was finally found).

During the project's duration the Ministry of Environmental Protection (MEP) became the Ministry of Environment and Water Recourses (MEWR). Later on during the project the MEWR ceased to exit and the Ministry of Energy absorbed its functions and responsibilities. These changes affected the involvement of high-level staff in the project. Moreover they resulted in changes being made to national priorities, after which often legislations was changed, which again impacted regulations and guidelines developed by the project.

# 8. Assessment of Project Impacts

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

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

The environmental effects caused by the project are positive. The PCBs disposed of with the project's assistance resulted in a reduction of the amount of PCBs being released into the environment (the disposal of faulty and leaking equipment was prioritized by the project). More specifically, the project removed 230 tons of PCB waste from locations that where not fit to use, keep, store and safeguard this type of waste and equipment. Leaking and damaged PCB equipment was prioritized as part of these efforts, as the risks this equipment was posing was the greatest. In addition, the project removed seven tons of contaminated soil, where it was indicated that PCB levels surpassed safety thresholds. The project also safeguarded the storage of drained/empty transformers, for a total of 670 tons.

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

The TE does no discuss socio-economic changes. In any case it is probable that PCB holding companies that now operate through their revised internal guidelines face higher costs due to a more proper management of wastes and environmental risks.

8.3 Capacity and governance changes. Describe notable changes in capacities and governance that can lead to large-scale action (both mass and legislative) bringing about positive environmental change. "Capacities" include awareness, knowledge, skills, infrastructure, and environmental monitoring systems, among others. "Governance" refers to decision-making processes, structures and systems, including access to and use of information, and thus would include laws, administrative bodies, trust-building and conflict resolution processes, information-sharing systems, etc. Indicate how project activities contributed to/ hindered these changes, as well as how contextual factors have influenced these changes.

a) Capacities

The project trained more than 1,000 people to create awareness and capacity in the handling and management of PCBs. Some companies also trained their personnel in proper management and maintenance of oil containing equipment. In addition, five laboratories were accredited for PCB analysis in oil, three in soil and one in food (TE, p. 48).

b) Governance

Important amendments on POP were introduced in the Ecological Codex. New rules for handling POP were passed by the government and new guidelines for the implementation of PCB regulative framework were approved by the Scientific Council.

As a result of the project, PCB holders completed their inventories. Major holders also developed phase-out plans. As a result of these actions, the Government of Kazakhstan has a much better idea on where risks are presenting themselves, and can work with companies to start phasing out PCB containing equipment (TE, p. 50).

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

The TE does no mention any unintended impacts. It is therefore assumed the project had no positive or negative unexpected consequences.

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

A new GEF/UNDP project was approved (NIP Update, Integration of POPs into National Planning and Promoting Sound Healthcare Waste Management in Kazakhstan). Information from the PCB inventories (undertaken as part of the UNDP PCB project) were used to update the NIP chapter on PCBs (TE, p.11).

A feasibility study on the establishment of treatment capacity for PCBs, POPs and other types of hazardous waste in the Republic of Kazakhstan was conducted. The facility is supposed to be funded by the World Bank and GEF to serve demand in Central Asia for destruction/treatment of such wastes and it is expected to be operational by 2020 (TE, p. 45).

Sound management of chemicals and waste issues were integrated into the *Concept for the Transition of the Republic of Kazakhstan to a Green Economy* and became part of the Action Plan for the Concept's implementation approved by the President. One of the chapter exclusively focuses on Waste Management. UNDP and the PCB management project also supported the Government in the adaptation of legislation/regulations, for the implementation of the Green Economy Concept (TE. p. 46).

# 9. Lessons and recommendations

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

The TE presented the following lesson learned:

- The most important challenge of the project was the prohibition of the trans-boundary transportation of PCB containing wastes by land/sea. The project explored different export and transportation routes and ultimately decided to export PCB waste by air. Although it is extremely costly the project showed that PCBs can be exported by air. Kazakhstan might have been the first country that has exported PCB waste by air transport as part of a GEF project. Costs of disposal were: For PCB pure oil 7,343 US$/ton and for PCB containing capacitors 6,666 US$/ton including packaging for transport, cargo air planes, permits and final disposal costs.
- Implementing a number of consecutive POPs/Chemicals projects can result in a critical mass of PCB/POPs expertise and capacity in the country**.** Kazakhstan implemented a NIP project, followed by a PCB management project, and a NIP update/Health care waste management project. All these projects and their activities contained POPs and chemicals components and as a result, capacity and awareness on these subjects can be considered considerable within government entities, NGOs, experts, hazardous waste companies and waste holders. A second advantage is that when an entity has insufficient expertise in a certain area, it is easily able to locate the required expertise at national level.
- Mainstreaming of PCB and POPs issues is key to ensure continuity of national efforts to improve sound management of chemicals (SMC). The project contributed to the development of the Green Economy Concept. Ultimately one chapter was dedicated to waste, and PCB priorities were mainstreamed.
- When "external" partners are allowed to review legislations/regulations before their enactments the identification of implementation challenges before legislation is enacted is easier. The *Concept for the Transition of the Republic of Kazakhstan to Sustainable Development* (and also the Green Economy Concept) allowed NGOs, trade unions, business associations, Government and private sector entities, among others, to participate and make recommendations to the lead ministry, when new legislation/regulations was discussed in Kazakhstan. In this manner challenges were identified early on – before the legislation/regulation was enacted. An added benefit of an inclusive approach is that there is less opposition from a powerful private sector, when it has been engaged through the various stages of the legislation's preparation.
- Quality training and capacity building of local/national hazardous waste management companies can result in the establishment of long-term sustainable hazardous waste solutions. The project supported two commercial hazardous waste companies and build their capacity on (re)packaging, transportation, (interim) storage, of PCB containing waste. When the project comes to an end, these companies will be able to continue providing such services to PCB holders.
- Commitment to PCB phase-out and access to financing is much higher among (partially) internationally owned companies. International companies have the means and need to abide by

targets set at corporate level, as such they are the most committed to meet national requirements for PCB management, phase-out and disposal. For nationally owned companies, it is much more challenging to meet the objectives of the project, as they often do not have the financial means to cover inventory, management and replacement costs, as no economic incentives are in place.

- Ensuring geographical coverage of training activities allows projects to reach out to many key stakeholders compared to organizing training events at centralized locations. The project provided training in many different locations, which allowed for many more stakeholders (in particular, regional environmental departments and technical staff of PCB holders) to participate in the training.
- The extent to which laboratories require support, turns out often to be much more extensive than initially anticipated. Although the support provided by the project to laboratories was valued highly there will always be additional requests for further necessary capacity building.
- Laboratories which are allowed to set their own pricing for analysis are more competitive as compared to laboratories that have to abide by fixed pricing levels.
- Many companies keep PCB equipment (even though it is not in use) and list it as "*in operation*" but not as "*PCB waste*". The root cause of this practice is that on the one hand the costs to ensure compliance with PCB related legislation are very high, while on the other hand the fines are low. If a PCB holder lists PCB containing equipment as a waste, the waste is required to be registered, a waste passport/permit needs to be obtained, the waste needs to be stored according to PCB waste guidelines and waste needs to be disposed of after three years. To avoid incurring such costs, many companies opt therefore to list such equipment as "in operation". Without legislation in place that urges for the phase-out of PCB equipment and economic incentives to support this phase-out, PCB holders (mostly national ones) try to meet deadlines as late as possible.

### 9.2 Briefly describe the recommendations given in the terminal evaluation.

The TE provided the following recommendations

1. Ensure project extension. The project should not be operationally closed before the export of the shipment of 150 tons of capacitors has been accomplished. Secondly, it might be preferable to await operational closure of the project until the 2014 amendments to the EcoCode have been approved – however the latter might take too long.
2. Prepare an Exit plan from the beginning. Its outcomes should be an action plan which indicate what future activities will be implemented, in which manner and by who.
3. Prepare a lessons-learned report. The Kazakhstan PCB management project encountered many project implementation challenges which were also faced by other land-locked and Central Asian countries. The project is the first GEF project, which has successfully exported PCB waste by air. It is therefore very important that project results, lessons-learned and recommendations would be captured in a high-quality end of project report, which could potentially be disseminated at the next Basel, Rotterdam and Stockholm COP (May 4 – 14, 2015) for use and exchange with other parties to the Stockholm Convention.
4. Prepare a project video. The project collected many photos and video materials. It would embed

confidence in project partners and PCB holders, to visually showcase the entire life-cycle management of PCB waste management and the achievements of the project. A project video would also allow for a good project keepsake that could easily be used to share experiences with other countries.

5. Start the development of a second phase PCB project. Such a 2nd phase PCB project could focus on further strengthening of the legislative framework, identify and implement local solutions for the decontamination of drained equipment such as transformers, further expand the inventory (e.g. include transformers owned by the local energy distribution companies); focus on improving storage conditions at PCB holder awaiting disposal; explore various financial incentives to allow PCB holders to put up the funding to phase-out and dispose of PCB equipment. A second phase PCB project would preferably be developed in partnership with the GEF (GEF-VI) and the UNDP-Kazakhstan Government Fund for implementation of innovative ideas.
6. 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 guidelines prepared by the project, as well as other materials, guidelines, tools and the like are posted on the Zhasyl Damu Agency website, or another website, to ensure that project related documentation remains easily accessible to project stakeholders.
7. Organize a round table to improve coordination among laboratories and SRC. As many unclarified issues remain among laboratories. It might be advisable to bring together all laboratories before project closure to clarify the challenges related to purchasing and registering of standards, purchasing of cartridges, pricing of PCB analysis, among other issues. Such a round table could also come up with recommendations to improve future coordination among laboratories.
8. Ensure PCB data captured by updated NIP reflects project results. PCB inventory data is submitted to and kept at regional ecological departments in a decentralized manner. Therefore, with the exception of updated PCB information in the NIP no PCB related inventory data is kept/managed centrally. It is recommended that an updated NIP document is developed to reflect the correct amount of PCBs as identified during the project's durations.

## 10. Quality of the Terminal Evaluation Report

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

| Criteria | **GEF IEO comments** | Rating |
|---|---|---|
| To what extent does the report contain an assessment of relevant outcomes and impacts of the project and the achievement of the objectives? | The assessment of relevant outcomes, impacts and achievements and objectives is comprehensive and well substantiated. One minor criticism is the absence of analysis for socio-economic impacts. | **HS** |
| To what extent is the report internally consistent, the evidence presented complete and convincing, and ratings well substantiated? | The report is internally consistent and evidence is clear and convincing. | **HS** |
| To what extent does the report properly assess project sustainability and/or project exit strategy? | Sustainability issues are properly addressed. An exit strategy analysis is missing | **MS** |
| To what extent are the lessons learned supported by the evidence presented and are they comprehensive? | Lessons learned are of very good quality. The context that generated them is properly explained. In general terms, they are inspiring. | **HS** |
| Does the report include the actual project costs (total and per activity) and actual co-financing used? | The TE includes actual and projects costs, which are reported by outcome. Data on actual co-financing are properly included. | **HS** |
| Assess the quality of the report's evaluation of project M&E systems: | The analysis of the M&S system is comprehensive, however some more details could have been added. | **S** |
| **Overall TE Rating** | | **HS** |

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