



# United Nations Development Programme

Country: Jordan

## PROJECT DOCUMENT<sup>1</sup>

### Project Title:

Implementation of Phase I of a comprehensive PCB management system in the Hashemite Kingdom of Jordan

### UNDAF Outcome(s): Sustainable Management of Natural resources and environment

#### UNDP Strategic Plan Environment and Sustainable Development Primary Outcome:

Mainstreaming environment and energy

#### UNDP Strategic Plan Secondary Outcome:

#### Expected CP Outcome(s): Sustainable Management of Natural resources and environment

**Expected CPAP Output (s)** : Enhanced national capacity to implement the National Implementation Plan related to Persistent Organic Pollutants (POPs) in accordance with Stockholm convention.

**Executing Entity/Implementing Partner:** Ministry of Environment

**Implementing Entity/Responsible Partners:** Ministry of Environment

### Brief Description

Polychlorinated Biphenyls (PCBs) are a class of synthetic organic chemicals. 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.

The project will provide Jordan with the tools to achieve effective compliance with respect its Convention obligations and the objective of substantively minimizing the environmental and health risks, both local and global. It has been developed to specifically address the principle barriers identified during project preparation through (1) Component One: Regulatory and administrative strengthening for PCB management, (2) Component Two: Improving PCB inventory and technical capacity for Environmentally Sound Management (ESM) of PCB equipment and materials, (3) Component Three: Demonstration projects for testing ESM system and disposal of PCB containing equipment, (4) Component Four: learning, adaptive feedback, outreach and evaluation.

Programme Period:	2010-2013	Total resources required	US\$ 3,130,000
Atlas Award ID:	00058549	Total allocated resources:	
Project ID:	00072751	• Regular	
PIMS #	4095	• Other:	
Start date:	November 2010	o GEF	US\$ 950,000
End Date	July 2013	o Government	US\$ 730,000
Management Arrangements	NEX	o In-kind	US\$ 700,000
PAC Meeting Date	t.b.d.	o Other	US\$ 750,000
		In-kind contributions	

<sup>1</sup> For UNDP supported GEF funded projects as this includes GEF-specific requirements

Agreed by (Government):

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Date/Month/Year

Agreed by (Executing Entity/Implementing Partner):

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Date/Month/Year

Agreed by (UNDP):

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Date/Month/Year

## Acronyms

ADR	International Carriage of Dangerous Goods by Road
ARR	Annual Review Report
AWP	Annual Workplan
BEP/BAT	Best Environmental Practice and Best Available Technologies
CDR	Combined Delivery Report
CEO	Chief Executive Officer
CP	Country Programme
CPD	Country Programme Document
FAO	Food and Agriculture Organization
GDP	Gross Domestic Product
GEF	Global Environment Facility
GOST	State Standards
HQ	Headquarters
IA	Implementing Agency
IW	Inception Workshop
M&E	Monitoring and Evaluation
MEA	Multilateral Environmental Agreement
NEAP	National Environmental Action Plan
NEX/NIM	National Execution
NGO	Non-governmental Organization
NIP	National Implementation Plan for the Stockholm Convention
OFF	Operational Focal Point
PB	Project Board
PBM	Project Board Meeting
PCB	Polychlorinated biphenyls
PIR	Project Implementation Report
PMU	Programme Management Unit
POPs	Persistent Organic Pollutants
PPG	Project Preparation Grant
RCU	Regional Coordination Unit
SAICM	Strategic Approach to International Chemicals Management
SRF	Strategic Resource Framework
TOR	Terms of Reference
UN	United Nations
UNDAF	United Nations Development Assistance Framework
UNDP	United National Development Programme
UNDP CO	UNDP Country Office
UNEP	United Nations Environment Programme
UNIDO	United Nations Industrial Development Organization

## 1. SITUATION ANALYSIS

### 1.1 Global context and significance

#### 1.1.1 Issue background and baseline

Polychlorinated Biphenyls (PCBs) are a class of synthetic organic chemicals and are considered Persistent Organic Pollutants (POPs). Since 1930 PCBs were used 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 and very good electrical properties. PCBs are fire resistance, have a low electrical conductivity, high resistance to thermal breakdown and a high resistance to oxidants and other chemicals. When researchers in the 1970s found out that these characteristic that made them a popular additive represented a serious threat to human health and the environment, their production was gradually stopped. PCBs are considered to be immunotoxic and affect reproduction. Adverse effects associated to the exposure of PCBs are damage to the immune system, liver, skin, reproductive system, gastrointestinal tract and thyroid gland<sup>2</sup>.

In 1980-90s, the manufacture of PCBs was gradually stopped, and countries started introducing regulations to control the handling and ensure safe management of PCB materials. Around 1.7 million tonnes of PCBs were produced between 1929 and 1989 and a lot of the equipment containing PCBs is still in use somewhere or stocked awaiting final disposal. As PCBs once released into the environment do not break down but travel over long distances and continue to pose health risks to humans, it is important to remove them from use and destroy existing stockpiles. Existing PCBs can be destroyed through the breaking of their molecular bonds by the input of either chemical or thermal energy. The most common method is high temperature incineration, though other non-combustion methods like dechlorination exist<sup>3</sup>.

The world community had initiated global efforts to regulate and control POPs, and in 2001 the Stockholm Convention on Persistent Organic Pollutants<sup>4</sup> was adopted which then entered into force in 2004. PCBs were listed in the initial register of twelve (12) POPs and have been since then controlled by the Convention. All parties which acceded or ratified the Convention assumed specific obligations to ensure safe POPs management.

The Hashemite Kingdom of Jordan signed the Convention in 2002 and ratified it in 2004. By becoming a party, the Government had taken on the mandatory obligations to implement the Convention and the control measures identified in its guidance text.

The first step towards meeting the obligations was the development and formulation of the National Implementation Plan (NIP) for Stockholm Convention. The NIP<sup>5</sup> was prepared and transmitted to the Stockholm Convention Secretariat in December 2006.

The requirement to deal with PCBs has been identified in the NIP of Jordan. It was reported that no PCBs were ever produced in the country or re-exported, and that some of the old electrical equipment could contain PCBs. The PCB equipment was in fact an imported product originating from other countries. The two main chemical which were suspected to be in the equipment were limited to Askarel and Sovtol. The survey which was carried out at that time was focused on transformer type of equipment due to time limitations, and thus no study over the other types of equipment was performed – capacitors and circuit breakers were not covered by the survey. Resulting from the initial study, the NIP had reported that PCB materials have been found to be in power electrical equipment such as transformers and in oil reserve. The primary locations for transformers were the Al-Husain Power Plant (5 pieces of equipment

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<sup>2</sup> <http://chm.pops.int/Programmes/PCBs/Overview/tabid/273/language/en-US/Default.aspx>

<sup>3</sup> <http://chm.pops.int/Programmes/PCBs/Overview/tabid/273/language/en-US/Default.aspx>

<sup>4</sup> [http://chm.pops.int/Portals/0/Repository/convention\\_text/UNEP-POPS-COP-CONVTEXT-FULL.English.PDF](http://chm.pops.int/Portals/0/Repository/convention_text/UNEP-POPS-COP-CONVTEXT-FULL.English.PDF)

<sup>5</sup> <http://chm.pops.int/Countries/National%20Implementation/tabid/253/language/en-US/Default.aspx>

amounting to around 11 tons of PCB oil and 1.5 tons of PCB oil stored at the facility) and the Irbid Electricity Distribution Company (4 pieces of transformers showed PCB contamination with 1.5 tons of PCB containing oil estimated). The former site accounted for 90% of PCB materials available in the country.

During the NIP stage, the lessons learned from the field surveys were that it was rather difficult to obtain required information on electrical equipment in the utility and industrial sectors since no accurate documentation on the PCB equipment was available, specifically for the equipment procured and installed prior to 1980. The NIP further proposed urgent actions on a comprehensive and detailed survey of the oil electric equipment across the electricity distribution companies to create a better picture on the PCB material inventory available in the country. The NIP also listed regulatory measures which were in place in 2005 to initiate the control over the PCB management. There have been no regulations which would control the handling of PCBs and their safe disposal; however, a ban on import of import and use of oil with PCB content of above 0.005% PCB by weight was introduced by the Ministry of Health in 2005. It was also concluded, after the NIP initial studies were completed, that the lack of laboratory capacity to identify PCBs was one of the main barriers for completing the PCB inventory, and no designated storage places for PCB materials which would meet internationally established standards were identified in Jordan. The low level awareness among a significant number of stakeholders was detected during the NIP formulation, and all these aspects were summarized in the NIP Action Plan which was adopted in June 2006. To date, the NIP has received limited follow-up implementation due to the need for international technical assistance.

In 2010, however, the GEF, through UNDP, had provided project formulation assistance in order to revisit the NIP data on the PCB issue, perform additional industry contacts and inventory cross-checks in order to a technical assistance package to install internationally recognized and viable system for sage PCB management in Jordan.

The PPG phase has allowed contacting and visiting several major owners (users) of power equipment in the country. Among them are:

- (-) All entities of the utility sector (IDECO, EDCO, NEPCO, JEPCO, CEGCO) – though not all locations;
- (-) The national oil refinery company,
- (-) Two mines of the phosphate industries,
- (-) The potash mining company at the Dead Sea area,
- (-) The international Queen Alia Airport at the city of Amman, and
- (-) The LaFarge subsidiary at Fuheis.

Resulting from this, the expert team had clarified the situation with PCB equipment use:

#### Transformers:

(-) Al-Husain Power Plant. Nine (9) pieces of pure PCB transformers were detected in operation at the power plant located near the capital city with a total weight of approximately 30 tons;

(-) Central Oil Refinery. With forty-five (45) transformers identified at the oil refinery, eight (8) transformers were checked by GC and six (6) transformers were found to be PCB cross-contaminated with levels above 50 ppm. The approximate weight of the PCB contaminated oil is 6 tons. The site is suspected to have around 30 tons of PCB contaminated oil after the complete check which will be

performed during the project implementation. Poor maintenance practices were documented at the oil refinery which suggests significant cross-contamination of existing equipment fleet;

(-) IDECO utility. The company has planned the repair of 100 old transformer units and scrapping of 20 pieces of oil filled transformers. Due to the old age of the equipment (produced before 1985), it is assumed that 60 transformers may contain PCB oil above 50 ppm, which may result in up to 30 tons of PCB contaminated oil; Additionally, IDECO's equipment storage facility (Hosha) contains up to 300 pieces of old models of oil transformers, and though no checks have been performed due to the size of inventory (the test would have consumed the main portion of PPG budget with the current cost of US\$ 50 per sample per test) at both IDECO and Hosha sites, it is assumed that 10% of the equipment can be cross-contaminated with PCB oil resulting in additional up to 15 tons of PCB contaminated oil;

(-) JEPCO utility. JEPCO's equipment storage facility (Zarqa) has reported 250 pieces of oil transformers ready for scrapping with some being detected to be seriously leaking into the floor. Due to aged equipment, the project team estimated that around 10% of this old equipment can be cross-contaminated constituting up to 15 tons of PCB contaminated oil.

(-) Though CEGCO was referred in the NIP as having PCB transformers, the results of the PPG phase did not show any quantities of such equipment at this utility company. Oil tests must be further performed at the company.

#### Capacitors:

A number of PCB filled and impregnated capacitors were identified too:

(-) LaFarge Cement Plant. Twenty six (26) pieces of PCB filled capacitors in capacitor banks were found at the cement factory (central site). The total confirmed weight of equipment is up to 2 tons. The company has agreed to participate in the project by conducting additional inventory of PCB capacitors at its subsidiary sites. At the moment of PPG finalization, no data has been yet received, though the estimated total weight of PCB equipment with new data might reach 4 tons;

(-) Central Oil Refinery. Forty (40) pieces of PCB impregnated capacitors have been identified with a total weight of approximately 1.5 tons of PCB equipment;

(-) Phosphate company. One hundred (100) pieces of PCB filled capacitors were found in operation at the company's premises accounting for approximately 6 tons of PCB equipment.

(-) Additional six (6) units of PCB filled capacitors were detected at JEPCO's utility substation with approximate total weight up to half a ton (500 kg) of PCB equipment.

#### Ballasts in fluorescent light bulbs:

During site visits to metal scrap yards, it was also identified that small electrical devices such as ballasts in fluorescent light bulbs also contained PCBs. The quantities determined are small.

During the survey, several communication barriers were experienced with potential PCB equipment users. For instance, not all utility companies have responded to the questionnaires and did not provide data during site visits. Out of 50 substations total available in the country and controlled by the utility companies, only one has reported required information. Additionally, the Jordan fertilizer factory has not provided feedback on its inventory of PCB capacitors as compared to the Phosphate company which works in the similar business field. Such information is considered as forthcoming during the project implementation.

The cross-check of the equipment produced before 1985 was performed through existing inventories which were requested from a number of users of power equipment identified in the country. Limited or no oil check has been performed due to insufficient analytical capability (and, lack of knowledge on existing GC methodologies for PCB oil tests), and large oil equipment inventories available at several users of power equipment (the test would have consumed the main portion of PPG budget with the current cost of US\$ 50 per sample per test). The remaining fleet of power equipment produced after that year was targeted for future regular cross-checks during the project implementation to understand the scope of potential equipment cross-contamination due to maintenance. It is presently assumed that the total of 15,000 units of oil transformers must be checked for such reason. Further, it is assumed that around 15% may be PCB-contaminated at levels between 50 and around 1,000 ppm. It is expected that only very few pieces of equipment may have higher levels of PCB, and the rest will be free of PCB materials.

With regard to capacitors, the investigation through direct contacts with a large number of utility companies had concluded that these equipment types were mainly used in the major industries, but seldom in the utility sector. Therefore the inventory will be more in the industrial sites, though no large quantities of capacitors is expected to be found during the full inventory process. During site visits, it was further documented that there is little knowledge about the PCB equipment. During one of the official visits by the international technical expert, one company (oil refinery) has been documented to be in possession of operational PCB capacitor equipment (capacitor banks). However, no data was provided by such company to the project team on the existence of PCB equipment within its boundaries before a technical support visit was arranged.

The use of PCBs in open applications has not been well researched and is not known, but the assumption is made that their use in caulking material in huge buildings is very low as bigger buildings were mainly erected after 1990. Nevertheless, further statistical studies for these sources of PCBs will be undertaken during the project execution.

The project team has also identified the existence of small ballast capacitors filled or impregnated with PCBs. Such stockpiles were identified at metal scrap yards in several sites (e.g. Aqaba authority in the south of the country).

During the NIP formulation and afterwards, several gaps in the legal framework have been identified which the project intends to resolve through legislation improvement and capacity building. There has been detected a limited progress in updating the hazardous waste legislation on the country which would address the PCB safe handling aspects. Though the import and use of industrial oil with PCB content of above 0.005% by weight was in place, no mandatory legislation to classify, register, label and inspect the PCB equipment was drafted for adoption. There are no mandatory requirements to check operational transformers for the PCBs content. No such check is also performed with regard to old equipment facing disconnect from the grid and onwards scrapping for metals nor with regard to transformers for any kind subjected to major repair.

Environmentally safe management standards for handling, storage and service of PCB equipment were found to be absent and require further elaboration and appropriate formulation suing international benchmarks. The preparatory project has identified the lack of proper maintenance and storage standards for disconnected or operational electrical equipment with any type of coolant. For instance, PCB equipment found at the Al-Husain Power Plant has been seen to be leaking to the room floor area with some basic tray installed to capture the PCB fluid after it was recognized that the equipment could contain PCB. The maintenance and repair of oil transformers is carried out without knowledge about PCB associated risks and potential cross-contamination of clean equipment with PCB materials. Given this baseline scenario, it is expected that the contamination of new equipment will commonly take place.

A very low awareness level on PCB equipment and acceptable maintenance practices has been documented during site visits and interviews with potential owners of PCB equipment. During the PPG phase, the maintenance and repair departments of the utility sector were informed about such risks and the need for informed action.



It has been identified that several companies plan for equipment modernization. For instance, IDECO (Electricity Distribution Company in the northern part of Jordan) expects to test 300 old models of oil transformers for PCB content prior to scrapping. The same exercise is now planned at storage locations belonging to the utility sector, as well at other utility companies apart from IDECO. Due to enhanced awareness on the PCB risks, the project counterparts are presently concerned with the destiny of such equipment in the scrap dealer sector.

During the investigation of the PCB analytical capability present in the country, the project team has identified that no checks for PCB content has been ever performed in the country and the existing lab facilities located at research centers possess sensitive GC laboratory equipment for hazardous chemicals test in the environment which is prohibitively expensive for PCB oil sampling. The use of GC equipment outside of the research centers, such as at the Central Oil Refinery, is limited due to lack of skills on the use of PCB related methodologies. Such capacity has significantly limited the ability to perform accurate inventory of PCB equipment in the country.

Overall, the found and estimated quantity of pure PCB in Jordan is low and any national disposal facility is not economically viable. The equipment cross-contamination continues and represents the main barrier which will have to be resolved by the project through the enhanced and comprehensive capacity building in the country and at the enterprise level. All pure PCB material will be subject to export to licensed facilities abroad for final environmentally sound disposal. For the low contaminated materials, experiences in developed countries show that oil change in transformers with 1000 ppm contamination level may be a viable domestic option. Low level PCBs concentrations could be decontaminated by oil change (replacement of PCB oil with PCB-free oil) with the follow-up checks after 6 months of equipment operation. After such operations the PCB concentrations would stay under 50 ppm level until the end of equipment's useful life. This methodology could be the most economic solution for low level contamination.

At the final stakeholder workshop held on July 29, 2010 organized for major potential owners of PCB equipment (utility sector and major industries), His Excellency, the Minister of Environment of the Hashemite Kingdom of Jordan stated that the currently prepared project is highly appreciated in order to go for a cleaner environment.

### **1.1.2 Global and environmental benefits**

The principle global environmental benefit from the project is the mitigation or elimination of risks associated with the release of POPs into the environment and their subsequent global distribution with resultant ecological and human health impacts from exposure to these chemicals. This will be achieved directly during the project period by activities related to the capture, secure storage and disposal of POPs stockpiles and waste (Component 4). It will also be achieved indirectly through strengthening technical, regulatory and institutional capacity (Components 1, 2 and 3). In the near term this will have an immediate global impact through elimination of historic practices where PCBs and PCB contaminated material appears to have been randomly disposed of and exported for direct recycling and re-use, both likely resulting in release of PCBs into the general environment and subsequent global distribution. In the longer term, these project components provide a basis for sustaining environmentally sound management of future PCBs through to their environmentally sound elimination in accordance with the Stockholm Convention. The following summarizes specific global environmental benefits attached to the reduction in POPs release risk that will 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

The project also provide broader global benefits into the future through the linkages that it has with introducing and expanding sound chemicals management concepts and a strategic approach to international chemicals management (SAICM). At a practical level, the further development of POPs management capability generally and specifically hazardous waste management infrastructure and capacity to address contaminated sites and past environmental liabilities constitute primary tools in addressing the broader chemicals management issues and as such contributes to the country's ability to make its contribution in this area of global impact.

### **1.1.3 Linkages with CP, UNDAF and CCA**

On January 18th, 2002 the Hashemite Kingdom of Jordan signed the Stockholm Convention on persistent organic pollutants and ratified it on November 8th, 2004 thus demonstrating its national policy position respecting cooperation with the international community on the POPs issue.

In 2006 the Jordan's environment sector challenges were addressed in the National Agenda. The main challenges were in the existing legislative and regulatory frameworks, hazardous and chemical waste management. Therefore, several initiatives were recommended within the National Agenda to address these challenges, such as, strengthen legislative and institutional framework for environmental sustainability and enforce relative legislation, develop solid waste management policies, promote environmentally sound disposal sites, develop a hazardous and chemical waste institutional framework which includes knowledge dissemination mechanisms and information tracking, along with an enforcement regime, in order to ensure that hazardous and chemical waste is adequately stored, collected, and disposed, and improve medical waste segregation, transportation, storage and treatment. Furthermore, to support the implementation of effective management, the legislative framework should be updated and enforced.

Moreover, Jordan's priorities and required actions related to POPs have been defined in the NIP which was approved by the Government of Jordan in 2006 as well as was reflected in the 2006 amended environmental protection law, and hazardous chemicals and waste management by law 2005.

The project is aligned with the National Action Plan contained in the National POPs Implementation Plan (NIP). Additionally, The NIP initiatives and activities was mainstreamed in the National Executive Programme (2007-2009), as well as in the Government Implementation Plan 2010, and in the planned National Executive Programme (2011-2013), where POPs aspects are highlighted under the Environment pillar.

Jordan has made similar commitments to a number of other chemicals related environmental conventions and agreements. These include the Montreal Protocol in 1987 and all its current amendments (1990, 1992, 1997, 1999, 2007), the Basel Convention on the Control of Trans-boundary Movement of Hazardous Waste and its Disposal in 1989, the Rotterdam Convention on Prior Informed Consent (PIC) for Certain Chemicals and Pesticides in 2004, The country has also subscribes to the 2008 Dubai Declaration on a Strategic Approach to International Chemicals Management (SAICM).

The project is consistent with UNDAF and Country Programme Action Plan through the following outcomes and outputs:

- (1) UNDAF (2008-12) outcome: Sustainable Management of Natural resources and environment
- (2) Country Programme Action Plan (2008-2012) outputs: Enhanced national capacity to implement the National Implementation Plan related to Persistent Organic Pollutants (POPs) in accordance with Stockholm convention.

## 1.2 Key Barriers

As described above, there are substantial gaps on the way to install the well founded and operational system for safe PCB handling in the Hashemite Kingdom of Jordan. The main barrier in changing the situation to be aligned with existing international standards is the limited national capacity, lack of qualified technical advice on the modern approaches which would be essential at the first stages aimed at safe PCB management in the country and no adequate control measures, low awareness level on PCB associated risks and limited national resources.

The main barriers are summarized in the list below. These will be targeted by the project:

- *Limited legislation which does allow comprehensive regulation of the PCB management:* The absence of basic regulatory instruments on the (1) inventory, labelling and reporting of PCB equipment stocks; (2) environmentally sound standards of PCB management; (3) requirements for environmentally sound storage and final disposal, requires substantial technical assistance and experience sharing.
- *Insufficient sectors wide data on the PCB inventory/stockpiles:* There have been difficulties experienced with PCB data collection during the PPG stages which require additional support to create a comprehensive, reliable and functional database to provide information for the decision making. This is linked with the regulatory gaps no mandatory registration and reporting of the PCB equipment is in place.
- *Limitations in the PCB analytical capability:* Despite the existence of some analytical capability in the country, there were gaps identified with regard to the GC protocols and procedures to test PCB oil samples. The capacity is mostly stationary with lack of knowledge on the modern PCB protocols, sample testing is too expensive and the lack of mobile test units is seen as a limitation to be able to cover large inventories of oil electric equipment. There is an urgent need to provide appropriate training for GC analysts as well to supply portable PCB detection equipment for the existing electricity distribution and industrial companies to complete the PCB equipment inventory.

- *Low level awareness on the PCB associated risks and dangers:* Though certain information flow to the stakeholders has been ensured through the PPG phase, there still remains an insufficient level of knowledge on the PCB issues, and environmental and health risks among the PCB equipment holders and regulatory authorities;
- *Limited capacity and knowledge in maintenance procedures for PCB containing equipment:* At the enterprise level, very little knowledge on the PCB associated risks and proper PCB handling was detected. Disconnected oil-based equipment goes for scrapping to metal dealers without PCB tests which is not sustainable. Equipment that is in operation and contains PCBs is not managed with caution and knowledge to avoid releases of PCB and limit exposure to workers and environment. Equipment cross-contamination continues and poses risks of expanding the PCB inventory and threatens the environment. Capacity building is a must at the enterprise level to ensure PCB equipment is managed in an environmentally sound manner.
- *Limited infrastructure to store the PCB materials for their sound management in line with international standards:* In the country, there is no established capacity for the safe storage of PCB materials. Such capacity is required to ensure that the environmentally sound PCB management is effectively implemented starting with the PCB identification through to their storage and disposal.
- *Lack of experience at the country level for PCB disposal:* The estimated quantity of pure PCB in Jordan is low, any national disposal facility is economically not viable. All pure PCB material will be subject to export to licensed facilities abroad for final environmentally sound disposal. For the low contaminated materials, experiences in developed countries show that oil change in transformers with 1000 ppm contamination level may be a viable domestic option. Therefore, the project should strive to increase the technical capacity of the country to manage the disposal of PCB waste through the use of the Basel convention instruments.

### 1.3 Stakeholder analysis

During the NIP development and preparation of the current project<sup>6</sup> a stakeholder analysis was performed which is summarized below.

On January 18<sup>th</sup>, 2002 the Hashemite Kingdom of Jordan signed the Stockholm Convention on persistent organic pollutants and ratified it on November 8<sup>th</sup>, 2004 thus demonstrating its national policy position respecting cooperation with the international community on the POPs issue.

The principal overarching legislative framework on environmental management was enacted in 2003 which established the Ministry of Environment. The law considers the Ministry of environment to be the competent authority for the protection of environment. Since 2003, a number of additional regulatory measures have been formulated and approved in the country. Among them is the Regulation of Management, Transport and Handling of Harmful and Hazardous Substances (initially formulated in 2003, and amended in 2005). In line with the regulation, the Ministry of Environment was assigned a responsibility for the management of hazardous substances and waste in the country. The Ministry formulates the framework of policies and action plans related to chemicals and waste management in cooperation with other national authorities:

(-) Ministry of Health regulates the import and handling of chemicals to control impacts on human health, thus, enforcing chapter 9 “Chemicals” of the Public Health Law No. 54/2002;

(-) Ministry of Agriculture is concerned with the use of pesticides, fertilizers and other agricultural chemicals. The Ministry also regulates the manufacturing, import, export and the use of such chemicals at the national level;

(-) Ministry of Finance/Customs Department are jointly responsible to enforce the implementation of national regulations on the import/export control of chemicals. The Ministry of Finance is also in charge of country budget allocation for chemical related programmes;

(-) Ministry of Interior is responsible for licensing vehicles used for chemicals transportation and for chemical accidents and emergencies. The Ministry is also in charge of permits for the construction of any new chemical industries in Jordan;

(-) Ministry of Foreign Affairs is mandated to coordinate all international aspects of chemicals and waste management;

(-) Ministry of Justice is concerned with the development and enforcement of laws and regulations;

(-) Ministry of Planning and International Cooperation primarily deals with economic planning and coordinates the development assistance.

The country's priorities and response measures related to POPs chemicals have been well defined in the NIP which was approved by the Government of Jordan in 2006. In 2006, these were also reflected in the amended environmental protection law. Additionally, the Jordan's environment sector challenges were addressed in the National Agenda. The POPs initiatives outlined in the NIP were mainstreamed in the National Executive Programme for Jordan (2007-2009), as well as in the Government Implementation Plan 2010, and in the planned National Executive Programme which will cover the period of 2011-2013, where POPs aspects are highlighted as priority issues under the environmental pillar. The main challenges were indentified in the National Executive Programme and these relate to the existing legislative and regulatory frameworks, hazardous and chemical waste management in general. Therefore, several initiatives were recommended within the National Agenda to address these challenges, such as:

(-) to strengthen legislative and institutional framework for environmental sustainability and enforce relative legislation,

(-) to develop solid waste management policies,

(-) to identify sites for environmentally sound disposal of hazardous wastes,

(-) to develop hazardous and chemical waste institutional framework which includes knowledge dissemination mechanisms and information tracking, along with an enforcement regime, in order to ensure that hazardous and chemical waste is adequately stored, collected, and disposed of, and

(-) to improve medical waste segregation, transportation, storage and treatment.

In addition, Jordan ratified and became a party to several international agreements related to hazardous chemicals and their management and disposal. These agreements are listed below:

(-) The Basel Convention of the Control of Transboundary Movements of Hazardous Wastes and their Disposal. Jordan Signed this agreement and it entered into force in 1992. In response to the ratification, a technical committee for the management of harmful and hazardous materials was formed and tasked with the classification of harmful, hazardous, prohibited and restricted materials and their wastes.

(-) The Montreal Protocol on Substances that Deplete the Ozone Layer. Jordan ratified the agreement in 1989 and all of its amendments in 1993 and onwards (The London amendment in 1993, the Copenhagen amendment in 1995, the Montreal amendment in 1999 and the Beijing amendment in 2001).

(-) The Rotterdam Convention on Prior Informed Consent (PIC). Jordan ratified the agreement in 2002. Consequently, the Ministry of Environment was assigned a role of the Designated National Focal Point for Chemicals, and the Ministry of Environment became the focal point for pesticides

The current project will ensure close coordination of the activities with the following national/regional level initiatives:

(-) The Regional Industrial Chemicals Programme under the Rotterdam Convention aimed at developing the capacity of the parties to manage industrial chemical on the national level with a total budget of 312,000 US\$. The programme includes a series of technical assistance activities intended to support parties in developing a sound national regulatory framework for the safe management of industrial chemicals. The project is under formulation and the cooperation on the programmatic level will provide a good opportunity to avoid any duplication in the planned activities;

(-) USAID funded project entitled “Tracking system for the management of industrial liquid and semi-solid wastes” aims at (i) controlling the disposal of industrial liquid and semi-solid wastes, (ii) environmental sound management of industrial liquid and semi-solid wastes, and (iii) developing a national database for industrial liquid and semi-solid wastes”, with total budget of US\$ 1 mln;

(-) USAID funded project entitled “Hazardous waste management in small and medium enterprises” with a total budget of US\$ 1 mln and with the following objectives: (i) improving the management of hazardous wastes in small and medium enterprises, (ii) providing environmental tools for personal protection, (iii) provide environmental tools for proper collection and segregation of hazardous wastes in small and medium enterprises, (iv) increasing the level of awareness and knowledge in municipalities related to industrial wastes in small and medium enterprises;

(-) Basel Convention Regional Center’s project on auditing and monitoring of hazardous wastes in medium and large industries with a total budget of US\$ 100,000. The primary project’s goals are (i) improving the management of hazardous wastes in medium and large industries, (ii) providing tools to improve the wastes classification and labeling, (iii) creating a mechanism for coordination between industries and public and private sectors (monitoring and inspecting agencies);

(-) PACE supported project for Jordan (a pilot project out of the four similar projects globally – US\$ 30,000) on studies to improve the collection and management of used and end-of-life computing equipment. The project is intended to improve the collection and management of end-of-life electronic equipment and wastes.

(-) GEF/UNEP project “Demonstration of Sustainable Alternatives to DDT and Strengthening of National Vector Control Capabilities in Middle East and North Africa” covering Djibouti, Egypt, Iran, Jordan, Morocco, Sudan, Syria, Yemen with the objective to reduce the reliance on DDT and to promote appropriate vector control management practices by strengthening capacities of countries to sustainably implement environmentally sound alternatives.

(-) GEF/UNIDO project “Promotion of Strategies to Reduce Unintentional Production of POPs in the PERSGA Coastal Zone” covering Egypt, Jordan, Sudan, Yemen. The project will reduce and/or eliminate UP-POPs in key sectors of industry (cement, incineration, metallurgy and pulp and paper) through the introduction of BAT/BEP strategies in the industrial sector of the coast in the PERSGA eligible member countries.

In addition, Jordan is a member in the PCBs Elimination Network (PEN). Being a member would be a benefit to arrange for information exchange on the promotion of the cost-effective completion of the

environmentally sound management (ESM) of liquids and equipment containing or contaminated with PCBs, promote ESM of PCBs equipment and materials, promote technical assistance and technology-transfer, provide and facilitate information exchange, raise awareness, encourage development and adoption of environmentally-sound techniques and practices to eliminate PCBs.

#### **1.4 Baseline analysis**

The NIP exercise provided the opportunity to collect preliminary and information on PCB equipment inventory and PCB management practices which revealed a very low awareness on PCB associated risks. After adopting the NIP in 2006, due to absence of adequate knowledge, experience and technical and financial resources, the country did not advance well with the implementation of the NIP priorities with regard to the safe PCB management. There have been no any additional national level measures taken to control and manage PCB chemicals with the exception for the studies carried out during the formulation of the current project proposal. Therefore, there has been little progress achieved towards the implementation of the Stockholm Convention in terms of the management of industrial POPs chemicals. During the PPG phase, it has been further confirmed that only marginal awareness on PCB risks existed on the ground and no substantial PCB removal activities would take place without the support from GEF which would serve as catalyst for policy change.

Therefore, the business as usual scenario would not introduce proper PCB handling practices with equipment repair, resulting in PCB contamination spreading among the electrical equipment fleet and wider environment. The limited knowledge on safe PCB equipment maintenance methods and the lack of designated and safe storages would result in that utility companies and industrial sector would not establish relevant PCB equipment elimination action plans at the enterprise level. The lack of reference and experience with the application and enforcement of the internationally established standards for PCB handling on the Government level would not allow effectively controlling such practices in the private sector. In a situation if the GEF is not provided for the PCB management capacity building and PCB elimination, the country would not advance with the implementation of the Stockholm Convention and the business as usual scenario would continue to prevail in such circumstances.

The project formulation funding has allowed to leverage significant national co-finance resources which would not have happened otherwise to support the basic PCB safeguarding activities and, as it was outlined in the business as usual scenario, there has been no planned or dedicated activity detected in this area in the country to sustain the implementation of the Stockholm Convention, and the project is therefore is considered as incremental.



## 2. Strategy

### 2.1 Project Rationale and Policy Conformity

The overall project objective and specific outcomes have been designed to contribute towards the Strategic Objective of GEF-4 for Persistent Organic Pollutants focal area – the protection of human health and the environment through the reduction and elimination of production, use, and releases of POPs. The project targets the development of country's capacity for the environmentally sound management of POPs chemicals in order to help implement the country's obligations under the Stockholm Convention.

The project's outcomes and outputs are full compliance with the GEF strategy for POPs management and are aligned with the GEF POPs Strategic Program 1 - Strengthening capacity for NIP development and implementation, and Strategic Program 2 - Partnering in investments for NIP implementation:

Strategic Program 1 (SP1). Jordan has completed initial activities to formulate the NIP and outline the priorities to be addressed in the follow-up projects. However, the country experiences shortage of knowledge and experience with regard to the environmentally sound PCB management. In consequence, the country is in need for the replication of international experience on the national level in order to develop its basic capacity to meet the Convention's objectives. In SP1, the project will target to:

- (-) introduce and upgrade its POPs regulatory regime, with specific regard to PCBs,
- (-) improve the knowledge and accumulate expertise with regard to the life-cycle management of PCB materials, including final disposal abroad, and
- (-) improve awareness among the project stakeholders and the public in general on the risks associated with improper handling of PCBs, and
- (-) implement a more detailed and comprehensive PCB equipment inventory in order to improve decision making processes.

The outputs of the project are therefore aligned with the SP1 indicators:

- (-) legislative and regulatory framework in place in supported countries for the management of POPs and the sound management of chemicals in general;
- (-) strengthened and sustainable administrative capacity, including chemicals management administration within the central government in supported countries, and
- (-) strengthened and sustainable capacity for enforcement in supported countries.

Strategic Program 2 (SP2). The program aims to reduce POPs production, use and releases as well as the impacts on human health and the environment resulting from exposure to POPs chemicals. In line with this objective, the project was developed in terms of its design to address these issues through:

- (-) establishing the environmentally sound management (ESM) system for PCBs and testing it in practice before wider replication on the national level,
- (-) upgrading of PCB equipment drainage and storage infrastructure, and
- (-) skilled and safe disposal of PCB materials through export abroad.



Therefore, the project is directly aligned with and contributing towards the following SP2 indicators:

- (-) POPs phased-out from use (tons and cost per ton per compound); and
- (-) POPs destroyed in an environmentally sound manner (tons and cost per ton per compound and mode of destruction).

Through the provision of substantial co-finance resources coming both from private and public sectors, the Government has demonstrated the serious intentions to support the implementation of activities planned within the scope of SP1 and SP2 and reduce PCBs materials from the current use.

## **2.2 Project Goal, Objective, Outcomes and Outputs/activities**

The developed GEF project scenario will provide necessary tools and increase technical capacity of the country to meet the requirements with respect to the Stockholm Convention with the overall objective of safeguarding the environment and health from PCB impacts at the national and global levels. A comprehensive system for environmentally sound management and disposal of PCB materials will be put in place, including up-to-date and functional PCB regulatory standards aligned with internationally recommended benchmarks. The system will allow the required capacity building at the national level with a demonstration element targeting PCB material disposal abroad. The demo disposal component envisaged in the project will further re-enforce the awareness raising effect to ensure that industrial sector is fully aware of the Government requirements and approaches for safe PCB management through its ultimate disposal.

The project was formulated to address the identified principal barriers as outlined in the previous section. In terms of its design, it follows the structure proposed in the originally approved PIF with baseline information collected through the PPG work and any necessary precision of the PIF's scope to reflect the currently required interventions. The following paragraphs list the five main project components included in the Project Framework:

**Component 1: Regulatory and administrative strengthening for PCB management.** The component aims at the formulation of relevant laws and regulatory measures for effective control of PCB handling in the country: hazardous waste classification, equipment registration, labeling and status reporting of PCBs. Through quality training and information dissemination workshops, the component will achieve better awareness level on the regulatory system and its requirements.

**Component 2: Improving PCB inventory and technical capacity for Environmentally Sound Management (ESM) of PCB equipment and materials.** Importantly, this component will address the barriers associated with the incomplete knowledge on the PCB inventory in the country through stimulating expanded sampling and testing of equipment oil. It will be aligned with removing limitations identified in the PCB analytical capacity sector, and specifically in the field, at the electric equipment owners. The component will further help in establishing a functional PCB equipment database. Further, it will develop ESM system for the direct application by enterprises with specialized trainings in the proper handling of PCB equipment. The in-house capacity of the private/public sector companies will be improved to prepare them to manage PCB equipment safely and minimize PCB releases, human exposure and equipment cross-contamination. Finally, it will address the highly recommended need for infrastructure upgrade to have proper interim storages which will serve the project needs within its timeframe and beyond prior to final PCB disposal abroad. Existing storage capacities were assessed to fall short of the requirement for safety and environmentally sound design.

**Component 3: Demonstration projects for testing ESM system and disposal of PCB containing equipment.** This element has been designed to test the feasibility and reliability of all the previously described project components performing together in a holistic PCB management system for meeting practical suitability of the project's approach. The component will help dispose of 40 tons priority PCB equipment and 100 tons of PCB contaminated materials through disposal in licensed disposal facilities abroad.

**Component 4: Monitoring, learning, adaptive feedback, outreach and evaluation**

A more detailed description of the project components follows this paragraph along with the related sub-components which were aligned with the outcomes and outputs as provided in Annex A.

**Component 1: Regulatory and administrative strengthening for PCB management (USD 225,000 Co-financing, USD 65,000 GEF):**

The component aims at the formulation of relevant laws and regulatory measure for effective control of PCB handling in the country. It will address the gaps between the existing baseline situation with no laws, regulations and guidelines for safe PCB handling and the internationally recommended benchmarks developed by the Stockholm and Basel Convention Secretariats. The Hashemite Kingdom of Jordan is committed to formulate and implement PCB regulatory measures that meet international standards and practices. During such exercise, a comprehensive analysis of the missing regulatory instruments will be carried out to match the existing national regime with acceptable international benchmarks. Guidance materials on the technical and management aspects of PCB handling will be formulated and disseminated to the project stakeholders. The law enforcement system will be seen as essential part of the regulatory system improvement. The component will also ensure the study of the spheres of responsibilities in the public sector which will then be aligned with the existing Government functions across the line ministries. If applicable, such measures will be extended to cover other toxic and hazardous substances in the country. In addition, there is hardly any sufficient public awareness on PCB risks at the moment. That will be changed by organizing awareness workshops, printing publications and sharing information through the internet. Component 1 has 2 outputs, which are:

Output 1.1: PCB laws, regulations and guidelines are upgraded to international standards. These will include: mandatory PCBs classification as hazardous waste and storage requirements; electric equipment testing, its registration, labeling and annual reporting on PCB inventories; etc. The existing wealth of international experience is utilized to remove gaps in the PCB control measures which will be upgraded to meet international standards.

Output 1.2: This output is intended to backstop the continuous information dissemination to enhance awareness on general and technical aspects associated with the risks presented by PCBs and the methods and approaches required to follow international standards of safety in their management. The target audience will be comprised of the project stakeholders at the Government and enterprise levels. Information on new and upgraded regulatory measures will be communicated through the workshops, in the media and through training of the personnel in the public sector.

The GEF co-financing for this component will cover the work of national and international experts to implement the sub-components: review and the upgrade of the regulatory measures, and dissemination of information materials through publication and workshops.

National co-financing will be in principle provided through the staff time contributions from Ministry of Environment to coordinate the regulatory system upgrade and its approval at the Government level. UNDP Jordan's resources will be utilized to disseminate information through existing UNDP information distribution channels through media interviews with UNDP management coordinating the project implementation and representation at the important national conferences and workshops, and co-sponsoring additional workshops in the country's provinces.

**Component 2: Improving PCB inventory and technical capacity for Environmentally Sound Management (ESM) of PCB equipment and materials (USD 930,000 Co-financing, USD 350,000 GEF)**

This component has 5 outputs, which are:

Output 2.1: This component will assist in improving the basic PCB detection capacity assessment through analytical capacity upgrade and specified training for analytical surveys on equipment potentially containing PCB. This plans to have established three (3) locations for regional testing of transformer oils for PCB content: one in the Irbid region (northern Jordan), one in the Amman region (central) and one in the Aqaba region (southern Jordan). At each location, a type of equipment similar or equivalent to Dexsil L 2000 mobile unit will be provided together with the required quantity of sets of chemicals (one set of reagents will be provided for one sample). The regular reporting will be ensured through output 2.2 on a quarterly basis to serve inputs into a central information database.

Output 2.2: This output will coordinate and support the extended sampling and testing of oil transformers. All utility companies and major industries will be covered by the project activities through direct contacts with the public and private sector stakeholders. It will be expected that these companies will have committed to actively participate with the sampling of their transformers. All collected samples will be subject to checks at the three regional centers identified in the output 2.1. During the implementation of this output, the transformer equipment will be registered and additional information will be collected: the current equipment conditions (signs of corrosion/leakage), equipment location (critical place within the facilities, occupational aspects) and other findings, such as other PCB devices or contaminated soil within or around the site. Through these measures, extended sampling and testing of PCB is ensured and completed with regular reporting to the central PCB database. One or two technician(s) per enterprise will be trained for the testing purposes for the duration of the project. The results of such inspection will be appropriately documented and registered and, in case of new PCB equipment discoveries, will be immediately reported to the Ministry of Environment. For the purposes of improving information availability and decision-making processes, a central national database of electric equipment will be designed and put into operation. Each equipment type will get a unique inventory number. This database will serve as tracing tool but as well for reports on PCBs in Jordan.

Output 2.3: This output will provide financing for the development of ESM system. The end result expected is that the ESM system is formulated and approved for mandatory application. The international guidance will be provided to customize the system for the country's circumstances. The project product will be presented for the review and approval of the PSC committee with the follow-up recommendation for its inclusion into the national regulatory structure governing hazardous waste management to ensure that safety guidance principles for PCB equipment/materials handling are followed at the end-user level.

Output 2.4: The introduction of the ESM system will be practically backstopped by specialized trainings to ensure an appropriate implementation of legal duties with regard to the PCB management. This sub-

component will address the establishment of the sustained training capacity for the safe PCB handling, packaging, storage and transportation at the enterprise level. Dedicated professionals selected among the currently employed electrical engineers (technical personnel working for the stakeholder utility companies and industrial enterprises) will undergo specialized trainings in ESM requirements and practices to disseminate and practically apply such knowledge at their respective enterprises. Through such trainings it will be ensured that the best PCB handling practices will be sustainably integrated on the practical level in the industry to assist in building national capacity for sound PCB management and stop PCB releases, human exposure and equipment cross-contamination.

Output 2.5: This output will help with the identification and selection of PCB storage facilities with the appropriate upgrade of their basic infrastructure to meet international safety standards to ensure the safe storage of PCBs (oil, equipment, and other materials) after the project start and in future once additional PCB materials will be accumulated in the results of the expanded national equipment inventory. Interim storage places are also essential in terms of supporting the environmentally safe disposal of PCB stockpiles. In the north, at Hosha site (Irbid region), IDECO utility company already operates a storage facility for disconnected transformers. The site does not yet meet any international requirements for safe storage of transformers, whether they are contaminated with PCB or not. IDECO desires very much to follow these international practices and the project will provide such assistance. JEPCO utility company has a maintenance centre and storage site in Zarqa location where as disconnected transformers are stockpiled waiting either for capital repair or scrapping. After the site visit, this facility does not meet international standards for secure PCB equipment/materials storage. JEPCO company has expressed a strong interest in upgrading their infrastructure to meet required safety and waste management standards. The third storage site will be located at EDCO utility company at Aqaba seaport. All of these pre-selected sites will be upgraded to the same safety standards. The same holds for the improvement of the process management system with the supply of adequate and necessary equipment/tools for these interim storages. The existing guidance documents developed by the Basel and the Stockholm conventions will be used as the international standard benchmarks. The upgrade of the infrastructure will be accompanied by appropriate technical advice and specialized trainings.

The GEF co-financing will be required for the portable testing equipment and the chemical reagents in sufficient quantities to enable a wide equipment testing. Further, GEF contribution will be used for specialized training of enterprise personnel in portable equipment use and ESM system application at the company level to install appropriate safety precautions to avoid PCB releases and exposure to workers. The GEF funds will also cover the establishment of the central database by a contracted database specialist with one computer procured. Finally, the GEF co-financing will cover the costs of infrastructure upgrade at the identified storage sites: (1) metal trays (2 to 4 sq m) will be procured and installed for the storage of identified PCB-containing or contaminated equipment; (2) the facilities will be upgraded with roofs to prevent rain from reaching the trays; (3) special tools will be provided (personal protection equipment, tools for emergency spills, pumps and hoses specially for PCB containing or contaminated oil); (4) packaging material for safe transportation will be provided which will meet the IMDG regulations (International Maritime Declaration on Dangerous Goods). This upgrade is required as all PCB will be shipped out for final environmentally sound disposal in licensed facilities abroad. Local and international experts will be too supported through the GEF co-financing to provide quality technical advice to the counterparts.

National co-financing will be coming from the utility companies where the regional testing centers will be established. Such co-finance will include in-kind support for basic furniture for the storage of samples, the provision of testing rooms and offices. Further, the co-financing will cover all sampling procedures (including personnel costs – field staff for the identification of PCB containing equipment and stockpiles,

costs for car transportation, inclusive of fuel, and sample bottles with appropriate labels). The private sector will support the project through the provision of qualified staff for the specialized training and the commitments to implement ESM system on-site. Additionally, the national co-financing will provide area, buildings, and other required infrastructure for the operation of the storages as well as responsible care over the PCB stockpiles. Operation staff will come from the owners at their cost as their in-kind contribution to the project. The same holds for any kind of equipment that is additionally required, such as crane or fork-lift truck. These sites will closely cooperate with technicians assigned for PCB oil sampling/testing. Any incoming material will be reported to the central database operated at the Ministry of Environment. The reports will be also issued for each batch of packaged PCB material proposed for export for final disposal.

**Component 3: Demonstration projects for testing ESM system and disposal of PCB containing equipment (US\$ 750,000 Co-financing, US\$ 400,000 GEF):**

This component has 2 outputs, which are:

Output 4.1: This output will target high priority PCB materials (PCB containing devices). High priority “pure” PCB equipment and PCB contaminated equipment and liquids are collected, transported to interim storage sites, packed and sent for final disposal. The final disposal will be implemented through export of PCB materials for environmentally sound destruction in licensed facilities. Through the exchange and replication of the international experience in safe PCB management, Jordan will build up its own capacity for future collection, proper handling, transportation and shipment of PCB materials to licensed facilities abroad. Cumulatively, the component will target the collection, packaging and disposal of 30 tons of PCB transformers from Al-Husein Power Plant and 10 tons of PCB capacitors from various identified sources totaling 40 tons of “pure” PCB oils, metal parts and other PCB materials received during the controlled dismantling of transformers.

Output 4.2: During the PPG phase, it was concluded that the main problem with PCB in the Hashemite Kingdom of Jordan is related to cross-contaminated oil transformers. For the low contaminated materials, experiences in developed countries show that oil change in transformers with 1000 ppm contamination level may be a viable domestic option. Low level PCBs concentrations could be decontaminated by oil change (replacement of PCB oil with PCB-free oil) with the follow-up checks after 6 months of equipment operation. After such operations the PCB concentrations would stay under 50 ppm level until the end of equipment’s useful life. This methodology could be the most economic solution for low level contaminated equipment. The project will target the collection, packaging and disposal of approximately 100 tons of PCB contaminated materials.

The GEF co-financing will cover the disposal of the PCB materials in environmentally sound manner. And, the national co-finance will be used for the replacement of PCB equipment with non-PCB devices and the low-PCB levels decontamination practices at the enterprise level.

**Component 5 - Monitoring, learning, adaptive feedback, outreach and evaluation (GEF US\$ 40,000)**

This component is expected to ensure that the project delivers sustained results for the country and for the replication of the experience elsewhere where it is appropriate and according to dominant circumstances. The outputs of the component are:

Output 5.1: M&E and adaptive management are applied to provide feedback to the project coordination process to capitalize on the project needs; and

Output 5.2: Lessons learned and best practices are accumulated, summarized and replicated at the country level.

Details are provided in Part I Section H: Monitoring and Evaluation plan.

The table below provides a summary cost estimate covering the proposed GEF scenario by Component and cross referenced with outcomes and outputs.

Project Outcome	Output	Cost (\$US)			
		GEF	National	Other	Total
<b>Component 1: Regulatory and administrative strengthening for PCB management.</b>		<b>65</b>	<b>225</b>	<b>-</b>	<b>290</b>
Outcome 1: Laws, regulations and guidelines for PCB management developed	1.1 PCB laws, regulations and guidelines are upgraded to international standards (hazardous waste classification, registration, labeling and status reporting of PCBs, including PCB handling activities).	15	100	-	115
Outcome 2: Sustained and targeted awareness raising on various levels	1.2 Country-wide awareness of existing laws, regulations and guidelines, especially at stakeholder level.	50	125	-	175
<b>Component 2: Improving PCB inventory and technical capacity for Environmentally Sound Management (ESM) of PCB equipment and materials</b>		<b>350</b>	<b>930</b>	<b>-</b>	<b>1,280</b>
Outcome 1: Development of PCB detection and analytical capacity through equipment/tools and specialized training for analytical surveys	Output 2.1 National capacity to analyze PCB suspected substances is improved	60	40	-	100
	Output 2.2. Extended sampling and testing of PCB is ensured and completed with regular reporting to the central PCB database	100	400	-	500
Outcome 2. Development of ESM system and specialized training for PCB experts to promote the system's applicability in practice	Output 2.3. ESM system is developed and approved at the national level for mandatory application	10	30	-	40
	Output 2.4. Through specialized trainings, the national capacity for secure management of PCBs is improved and sustained. Owners of PCB equipment apply ESM guidelines for safe handling of these devices.	80	160	-	240
Outcome 3. Identification and setup of storage facilities for proper interim PCB containment	Output 2.5. Regional storage facilities have been identified, assessed, upgraded and put into operation with relevant training of storage personnel	100	300	-	400
<b>Component 3: Demonstration projects for testing ESM system and</b>		<b>400</b>	<b>750</b>	<b>-</b>	<b>1,150</b>



<b>Project Outcome</b>	<b>Output</b>	<b>Cost (\$US)</b>			
<b>disposal of PCB containing equipment</b>					
Outcome 1. Development of capacity to securely transport, handle, package, securely stockpile PCB wastes and disposal of stockpiles (pure and contaminated)	Output 3.1 Up to 40 tons of “pure” PCB devices (transformer and capacitors) will be disposed of in EMS manner as a priority PCB stockpile	120	240	-	360
	Output 3.2 100 tons of PCB contaminated material will be disposed of ESM manner	280	510	-	790
<b>Component 4: Monitoring, learning, adaptive feedback, outreach and evaluation</b>		<b>40</b>	<b>-</b>	<b>-</b>	<b>40</b>
Outcome 1. Project’s results are evaluated, used in adaptive management and replicated	Output 4.1: M&E and adaptive management are applied to provide feedback to the project coordination process to capitalize on the project needs;	30	-	-	30
	Output 4.2: Lessons learned and best practices are accumulated, summarized and replicated at the country level.	10	-	-	10
<b>Total Costs for Outcomes</b>		<b>855</b>	<b>1,905</b>	<b>-</b>	<b>2,760</b>
<b>Project Management</b>		<b>95</b>	<b>275</b>	<b>-</b>	<b>370</b>
<b>Total Project Costs</b>		<b>950</b>	<b>2,180</b>	<b>-</b>	<b>3,130</b>

### 2.3 Project Indicators, Risks and Assumptions

The Project Indicators, Risks and Assumptions are fully represented in the Strategic Results Framework (Annex A) as well as the Risk Identification and Mitigation tables in the corresponding GEF CEO Endorsement Document. It is strongly advised to refer to these indicated annexes and sections of the CEO endorsement document.

### 2.4 Incremental Reasoning and Incremental Cost Analysis

Given the base case of essentially no action on implementation of the Convention in the absence of GEF funding, all GEF funding and associated co-financing is considered incremental. Similarly, GEF funds are to be directed to achieving project outcomes which meet the global project environmental objectives and which result in significant global environmental benefits. Likewise, the project outcomes and the resultant global environmental benefits match with the GEF goals, objectives and strategic programs for the POPs Focal Area during GEF-4 as described in Section 2.1. above.

The co-financing associated with the project involves funds that would not otherwise have been spent to achieve the outcomes and objectives above in relation to global environmental benefit, as opposed to national benefit, and to maintaining Convention compliance. It is acknowledged that there are national benefits from the project overall and from the GEF’s contribution, in terms of prevention of local environmental and human exposure. However, these benefits apply equally in a global context. Similarly, the technical and regulatory strengthening co-financed by the GEF also has significant local benefits though enhancing local capability in environmental protection generally. However, they benefits are recognized by the GEF strategy documentation as being globally significant as well. In effect national benefits are coincident with global benefits, rather than being independent of them.



As described above in defining the baseline situation, the level of global environmental benefit in terms of POPs release reduction in the absence of the GEF's intervention would not occur with substantive implementation of the NIP not being initiated. For this reason, all project are considered incremental, as are costs that would reasonably apply to supporting broader chemicals management where linked to PCB management activities.

The Incremental Cost Matrix prepared in CEO endorsement document provides an overall summary of the incremental costs, both the GEF and co-financing estimated for the project, linked specifically to the project outcomes from Annex A of CEO Endorsement, the baseline, and global environmental benefits.

## **2.5 Country Ownership: Country Eligibility and Country Drivenness**

The country's priorities and response measures related to POPs chemicals have been well defined in the NIP which was approved by the Government of Jordan in 2006. In 2006, these were also reflected in the amended environmental protection law. Additionally, the Jordan's environment sector challenges were addressed in the National Agenda. The POPs initiatives outlined in the NIP were mainstreamed in the National Executive Programme for Jordan (2007-2009), as well as in the Government Implementation Plan 2010, and in the planned National Executive Programme which will cover the period of 2011-2013, where POPs aspects are highlighted as priority issues under the environmental pillar. The main challenges were indentified in the National Executive Programme and these relate to the existing legislative and regulatory frameworks, hazardous and chemical waste management in general. Therefore, several initiatives were recommended within the National Agenda to address these challenges, such as:

- (-) to strengthen legislative and institutional framework for environmental sustainability and enforce relative legislation,
- (-) to develop solid waste management policies,
- (-) to identify sites for environmentally sound disposal of hazardous wastes,
- (-) to develop hazardous and chemical waste institutional framework which includes knowledge dissemination mechanisms and information tracking, along with an enforcement regime, in order to ensure that hazardous and chemical waste is adequately stored, collected, and disposed of, and
- (-) to improve medical waste segregation, transportation, storage and treatment.

In addition, Jordan ratified and became a party to several international agreements related to hazardous chemicals and their management and disposal. These agreements are listed below:

(-) The Basel Convention of the Control of Transboundary Movements of Hazardous Wastes and their Disposal. Jordan Signed this agreement and it entered into force in 1992. In response to the ratification, a technical committee for the management of harmful and hazardous materials was formed and tasked with the classification of harmful, hazardous, prohibited and restricted materials and their wastes.

(-) The Montreal Protocol on Substances that Deplete the Ozone Layer. Jordan ratified the agreement in 1989 and all of its amendments in 1993 and onwards (The London amendment in 1993, the Copenhagen amendment in 1995, the Montreal amendment in 1999 and the Beijing amendment in 2001.

(-) The Rotterdam Convention on Prior Informed Consent (PIC). Jordan ratified the agreement in 2002. Consequently, the Ministry of Environment was assigned a role of the Designated National Focal Point for Chemicals, and the Ministry of Environment became the focal point for pesticides

The project has been design to correspond to and reflect the activities outlined in the POPs National Implementation Action Plan. Specifically, the following project activities have been planned for the implementation:

<b>PCB Related NIP Action Plan Provisions</b>	<b>Proposed Project Component/Outcome/Output</b>
Introduce/upgrade regulations which should include compulsory deadlines for replacement of all equipment with PCBs, and reporting system on PCB inventories and equipment condition	Component 1 – Outcome 1 Component 2 – Outcome 2
Complete restriction of import of equipment (mainly transformers and capacitors) containing PCBs based oils / Ensure monitoring and control of imported equipment and machinery	Component 1 – Outcome 1
Complete field surveys to include all possible PCBs containing equipment in the private/public sectors and generally in the country / Establish a databank and log-books to centrally accumulate data about equipments that may contain PCBs	Component 2 – Outcome 1
Adopt and apply intensive maintenance programs in order to ensure prevention of leakage of PCBs to surroundings / Improve national capacity in the environmentally safe management of PCBs stockpiles	Component 2 – Outcome 2 Component 2 – Outcome 3 Component 3 – Outcome 1
Upgrade analytical capability, in close cooperation with concerned institutions, and provide it with necessary testing tools and devices in order to check for presence of PCBs in electrical equipment & appliances	Component 2 – Outcome 1
Develop and adopt an acceptable way to separate and dispose PCBs from oils and transformers that will comply with environmental laws and standards	Component 3 – Outcome 1
Replacement and disposal of PCB containing equipment/materials	Component 3 – Outcome 1
Develop a national public awareness and training programme for all workers and technicians dealing with PCBs and transformers, in close cooperation with concerned NGOs and electricity entities	Component 1 – Outcome 2 Component 2 - Outcome 2

## **2.6 Type of financing support provided with GEF resources**

The GEF resources will be in the form of a grant to primarily co-finance the required capacity development in the private and public sectors to establish a system for sustained and sound PCB management in the country. The GEF support will further assist in setting up financially self-sustaining scheme including electricity distribution enterprises and industrial sector to promote the identification, labelling, proper handling and replacement of PCB containing/contaminated equipment. The subsequent upgrade in storage facilities to match the international standards and final disposal of PCB materials will be supported with the GEF grant. Such GEF support is consistent with the GEF’s Focal Area Strategy and financing principles.

## **2.7 Sustainability**

The detailed project design at the component and sub-component level has a number of features that are intended to promote sustainability as noted below:

- The project places a high emphasis on training and information exchange, largely at a practical working level where skills in PCB management are directly required and can be immediately applied. All training conducted under the project will utilize written and replicable training materials and a “train the trainers” approach.
- The project substantively contributes to the sustainability of PCB phase out in the longer term through its support of a formal long term PCB phase plan and supporting the investigation of local and regional treatment and disposal options which will collectively provide the government with a “road map” in addressing future PCB stockpile issues.
- Ensuring the long term care and custody of any stored PCBs stockpiles (like any hazardous waste generally) is a fundamental sustainability issue. The project substantively mitigates this through the establishment of three regional PCB storage facilities.
- Environmental sustainability and integrity of the near term operational aspects of PCB management funded under the project are underpinned by the application of a safeguards approach to the specification and monitoring applied to secure storage facility development and stockpile disposal operations. This is specifically achieved through the use of a qualified technical expert to provide technical support and monitoring of these particular outputs.

## **2.8 Replicability**

Given the particular status of Jordan that has only just starting to aggressively address the PCB issue, the project is primarily a beneficiary of experience developed elsewhere. However, the approach used to consolidate institutional stakeholders and focus on specific barriers and priorities to initiate actual action may have application in other countries. In addition, there potentially are some specific aspects of the project that could be replicable. These include:

- The adoption of a regional perspective of the issue, particularly in relation to facilities/technology development and addressing import/export questions that result in non-compliance with the Convention.
- Proactively integrating PCB management with other initiatives related to POPs, hazardous waste management and sound chemicals management through a cooperative rather than competing approach between initiatives.
- Focusing responsibilities where practical expertise and working level involvement exists in undertaking PCB management activities.

1. **PROJECT RESULTS FRAMEWORK:**

2.

<p><b>This project will contribute to achieving the following Country Programme Outcome as defined in CPAP or CPD:</b> Enhanced capacities for safer management of hazardous waste</p>
<p><b>Country Programme Outcome Indicators:</b> (i) amount of Hazardous (PCB) waste disposed correctly according to international criteria, and (ii) percentage reduction in the number of PCB contaminated areas</p>
<p><b>Primary applicable Key Environment and Sustainable Development Key Result Area (same as that on the cover page, circle one):</b> Environmentally sound management and disposal of PCB in the Hashemite Kingdom of Jordan</p>
<p><b>Applicable GEF Strategic Objective and Program:</b> <b>Objectives:</b> To reduce and eliminate production, use and releases of POPs <b>Program:</b> (1) POPs SP1 Strengthening Capacities for NIP Development and Implementation, (2) POPs SP2 Partnering in Investments for NIP Implementation</p>
<p><b>Applicable GEF Expected Outcomes:</b> (1) GEF eligible countries have the capacity to implement the measures required to meet their obligations under the Convention, including POPs reduction measures. As such measures will address the full range of chemicals (e.g., pesticides, industrial chemicals, and unintentionally produced by-products). Countries will also be implementing measures that will improve their general capacity to achieve the sound management of chemicals. (2) Sustainably-reduced POPs production, use, and releases, through phase-out, destruction in an environmentally sound manner, and use of substitute products and alternative processes, that lead to reduced environmental and health risks resulting from POPs.</p>
<p><b>Applicable GEF Outcome Indicators:</b> (1) Indicators for Outcome 1: (a) legislative and regulatory framework in place in supported countries for the management of POPs and the sound management of chemicals in general; (b) Strengthened and sustainable administrative capacity, including chemicals management administration within the central government in supported countries; (c) Strengthened and sustainable capacity for enforcement in supported countries. (2) Indicators for Outcome 2: (a) POPs phased out from use (tons and cost per ton per compound) (c) POPs destroyed in an environmentally sound manner (tons and cost per ton per compound and mode of destruction) (d) Reduced exposure to POPs, measured as the number of people living in close proximity to POPs wastes that have been disposed of or contained</p>

Project Strategy	Objectively verifiable indicators	Baseline	Target	Sources of verification	Assumptions
Objective: Implementation of a comprehensive PCBs management system in the Hashemite Kingdom of Jordan	Comprehensive PCB management system is installed on country-wide level through capacity building which is tested and promoted by demonstration for PCB final disposal in order to meet Jordan's obligation under the Stockholm Convention by the end of the project.	<ul style="list-style-type: none"> <li>• Lack of up-to-date regulatory measures for PCB control</li> <li>• Lack of national capacity and experience with PCB identification and management</li> <li>• Limited national resources for the implementation of the Convention</li> <li>• Low level awareness on the PCB risks</li> </ul>	<ul style="list-style-type: none"> <li>• Regulatory measures to assist in the identification, labelling, capturing and disposing of PCB materials.</li> <li>• ESM system to cover PCB handling in line with internationally accepted standards.</li> <li>• National capacity to manage PCB is upgraded through transfer of technical advice and specialized trainings</li> <li>• PCB materials are known, labeled, stored and disposed of in environmentally sound ways</li> </ul>	<ul style="list-style-type: none"> <li>• Documented number of regulatory upgrades which are approved in the country</li> <li>• PCB database is functional</li> <li>• Country Convention compliance status reporting.</li> <li>• Project Progress and M&amp;E reports</li> </ul>	<ul style="list-style-type: none"> <li>• Electrical equipment owners are fully committed to support the project's objective on a sector wide basis</li> <li>• Legislative upgrade and enforcement capacity is ensured by the authorities and the implementation is done in good cooperation with project stakeholders</li> <li>• Accurate monitoring and reporting.</li> </ul>
<b>Component 1</b>					
<b>Outcome 1</b> Laws, regulations and guidelines for PCB management developed	Regulations and guidelines for PCB management are in line with international standards including registration, labeling and reporting of potential all PCB and PCB containing materials in use in 2010.	<ul style="list-style-type: none"> <li>• Lack of appropriate regulatory measures to start controlling the PCB handling aspects in the country</li> <li>• Potentially PCB contaminated equipment goes for metal scrapping without oil testing</li> <li>• No mandatory identification, registration and reporting on PCB equipment is done across the equipment owners</li> <li>• In the absence of controls, private sector does not attach importance to voluntary cooperation measures to improve PCB management practices</li> </ul>	PCB regulations and guidelines are commonly developed in order to meet international standards and practices to backstop effective and safe PCB controls.	<ul style="list-style-type: none"> <li>• Documented number of regulatory upgrades which are approved in the country</li> <li>• Records of published regulatory measures (newspapers, web-site information)</li> <li>• Inventory of PCB equipment is updated and information is documented through regular reports</li> <li>• Project Progress and M&amp;E reports</li> </ul>	<ul style="list-style-type: none"> <li>• Legislative upgrade up to internationally accepted standards and enforcement capacity is ensured by the authorities and the implementation is done in good cooperation with project stakeholders</li> <li>• Electrical equipment owners are fully committed to support the project's objective on a sector wide basis</li> </ul>
<b>Outcome 2</b> Sustained and targeted awareness raising on various levels	Information dissemination campaigns ensure availability of printed and electronic information through workshops and work with media	<ul style="list-style-type: none"> <li>• Significant gaps in knowledge about PCB associated risks</li> <li>• No information products published</li> <li>• Very limited number of workshops held</li> </ul>	<ul style="list-style-type: none"> <li>• Information products developed and published</li> <li>• National workshops are arranged throughout the project's duration to distribute developed information packages</li> <li>• Media coverage on PCB issues is ensured</li> </ul>	<ul style="list-style-type: none"> <li>• Copies of publications</li> <li>• Documented media appearances and newspaper articles</li> <li>• Number of workshops held and number of participants</li> <li>• Project Progress and M&amp;E reports.</li> <li>• Setup of the web-site</li> </ul>	<ul style="list-style-type: none"> <li>• Professional technical advice is ensured and the quality of information is high</li> <li>• Project stakeholders are receptive of the information and show interest</li> </ul>
<b>Component 2</b>					

Project Strategy	Objectively verifiable indicators	Baseline	Target	Sources of verification	Assumptions
<p><b>Outcome 1</b> Development of PCB detection and analytical capacity through equipment/tools and specialized training for analytical surveys</p>	<ul style="list-style-type: none"> <li>Country has a comprehensive inventory of PCB containing and contaminated equipment</li> <li>Reports from personnel responsible for equipment testing.</li> <li>Labeling of tested equipment showing the new classifications (PCBs free, contaminated above 50 ppm)</li> <li>2 units of portable sampling and testing equipment are supplied</li> <li>2 engineers per utility company are trained in the use of such equipment.</li> </ul>	<ul style="list-style-type: none"> <li>Analytical capacity is limited to specialized labs with GC equipment, lacks modern protocols for PCB identification and skills for the use of such protocols. GC equipment is expensive per unitary sample test and slow in delivering testing results.</li> <li>Country does not have a comprehensive inventory of PCB equipment</li> </ul>	<ul style="list-style-type: none"> <li>All potentially contaminated oil transformers at utility sector and major private industries are tested for PCB. Equipment is labeled and registered</li> <li>Comprehensive PCB equipment inventory is done and helps accurate reporting to the authorities</li> <li>PCB equipment is recorded in a centralized manner for the use by authorities and for public information</li> <li>The database serves reporting obligations to the Stockholm Convention</li> <li>Analytical capacity is upgraded through the supply of portable equipment and GC protocols and specialized trainings for existing labs.</li> </ul>	<ul style="list-style-type: none"> <li>Number of PCB equipment inventory reports from private sector</li> <li>Central database is filled with data on a regular basis and is operational</li> <li>Project team verifies inventory through direct visits to the project stakeholders.</li> </ul>	<ul style="list-style-type: none"> <li>Electrical equipment owners are fully committed to support the project's objective on a sector wide basis</li> <li>Enforcement capacity is ensured by the authorities and the implementation is done in good cooperation with project stakeholders</li> </ul>
<p><b>Outcome 2</b> Development of ESM system and specialized training for PCB experts to promote the system's applicability in practice</p>	<p>Development of ESM system is completed and its successful implementation is backstopped by appropriate PCB legislative framework</p>	<ul style="list-style-type: none"> <li>PCB equipment handling is unsafe and does not meet any international norms.</li> <li>Potentially PCB contaminated equipment goes for metal scrapping</li> <li>Low level awareness of PCB associated risks</li> <li>No specialized training in safe PCB management has been provided and no capacity exists to prevent PCB releases or equipment cross-contamination</li> <li>No secure PCB material storage facilities exist</li> </ul>	<ul style="list-style-type: none"> <li>ESM system is developed</li> <li>PCB holders are aware of PCB risks associated with equipment maintenance and retirement.</li> <li>Private sector is trained in identification and registration of PCB equipment</li> <li>Three regional PCB storage facilities established and upgraded to meet international standards with appropriate training for personnel</li> <li>Private sector is provided professional services to pick-up, transport and handle identified PCB materials in ESM manner to prepare the waste for final disposal</li> </ul>	<ul style="list-style-type: none"> <li>ESM system is approved by law for mandatory application</li> <li>Number of trained personnel in ESM techniques and methods</li> <li>Number of companies implementing ESM</li> </ul>	<ul style="list-style-type: none"> <li>Electrical equipment owners are fully committed to support the project's objective on a sector wide basis</li> <li>Legislative upgrade and enforcement capacity is ensured by the authorities and the implementation is done in good cooperation with project stakeholders</li> </ul>
<p><b>Outcome 3</b> Identification and setup of storage facilities for proper interim PCB containment</p>	<p>Three interim PCB accumulation and storage points are installed and meet internationally accepted standards for safety and management by 2012</p>	<ul style="list-style-type: none"> <li>Lack of modern and safe interim PCB accumulation and storage points.</li> <li>Owners of PCB transformers willing to dispose of the priority hazardous materials in poor condition lack the opportunity to do so.</li> <li>Unprotected storages for disconnected electrical equipment, including PCB equipment, increase the risks</li> </ul>	<ul style="list-style-type: none"> <li>Three PCB accumulation and storage facilities are upgraded to meet internationally accepted standards and this backstops the functioning of the ESM system.</li> <li>All phased out transformers, especially those that are tested for PCB above 50 ppm, PCB capacitors and other PCB materials are stored in safe and environmentally sound manner which meets internationally</li> </ul>	<ul style="list-style-type: none"> <li>National/international tenders for the infrastructure upgrade and reports/certification by international experts on the storage management setup system.</li> <li>Approval of facilities by authorities</li> <li>Project Progress and M&amp;E reports.</li> </ul>	<ul style="list-style-type: none"> <li>All 3 foreseen interim storages are agreed by the owners.</li> <li>ESM system regulations are adopted in time</li> <li>Operation team at interim storages is well trained and equipped.</li> </ul>

Project Strategy	Objectively verifiable indicators	Baseline	Target	Sources of verification	Assumptions
		of PCB spread into the environment.	practices <ul style="list-style-type: none"> <li>Uncontrolled PCB releases from stored disconnected PCB equipment are minimized.</li> </ul>		
<b>Component 3</b>					
<b>Outcome 1</b> Development of capacity to securely transport, handle, package, securely stockpile PCB wastes and disposal of stockpiles (pure and contaminated)	<ul style="list-style-type: none"> <li>Incoming inventory reports from the interim storages on quantities, characteristics and origin of the PCB materials.</li> <li>Trained personnel at the storage sites to assist in transporting the waste material to storage/handling sites, safe PCB oil draining, packing and securing the wastes by 2012.</li> <li>Additional tests for cross-contaminated equipment which underwent oil replacement (equipment contamination level allowed at 1,000 ppm upper limit level)</li> <li>Disposal of 40 tons of pure and 100 tons of contaminated PCB materials by export to a licensed disposal facility by 2014.</li> </ul>	<ul style="list-style-type: none"> <li>Limited capability in the safe handling of PCB materials.</li> <li>PCB equipment is sent for scrap and contamination of media and exposure of workers continues.</li> </ul>	<ul style="list-style-type: none"> <li>National capacity to handle PCB materials for final safe disposal is improved.</li> <li>Economical solution for oil transformers with contamination below 1,000 ppm PCB in the oil is developed.</li> <li>Equipment containing PCB (40 tons) and oil contaminated with PCB above 50 ppm (100 tons) will be disposed of according to international standards and practices for all times.</li> <li>Number of PCB contaminated transformers is reduced in the country allowing minimizing further equipment cross-contamination.</li> </ul>	<ul style="list-style-type: none"> <li>Data reporting on packed PCB materials from storage facilities</li> <li>PCB content certificates for previously PCB contaminated equipment after PCB oil was replaced.</li> <li>Approvals for PCB material shipment in line with the Basel convention requirements</li> <li>Project tender documentation</li> <li>Destruction certificates for PCB materials received from licensed disposal facilities abroad.</li> </ul>	<ul style="list-style-type: none"> <li>Electrical equipment owners are fully committed to support the project's objective on a sector wide basis</li> <li>PCB materials are accumulated at storage locations in quantities allowing for international tenders.</li> <li>PCB oil is drained/changed in transformers in ESM manner by trained personnel. Health of the workers is protected by PPE.</li> <li>Basel convention notification documents are prepared and cleared for PCB waste export.</li> </ul>
<b>Component 4</b>					
<b>Outcome 1</b> Project results are evaluated, used in adaptive management and replicated	M&E and adaptive management applied to project in response to needs, mid-term evaluation findings with lessons learned extracted.	<ul style="list-style-type: none"> <li>No Monitoring and Evaluation system</li> <li>No evaluation of project output and outcomes</li> </ul>	<ul style="list-style-type: none"> <li>Monitoring and Evaluation system developed during year 1.</li> <li>Mid-term-evaluation of project output and outcomes conducted with lessons learnt at 30 months of implementation.</li> <li>Final evaluation report ready in the end of project</li> </ul>	<ul style="list-style-type: none"> <li>Project document inception workshop report.</li> <li>Independent mid-term evaluation report.</li> <li>Final evaluation report</li> </ul>	<ul style="list-style-type: none"> <li>Availability of reference material and progress reports</li> <li>Cooperation of stakeholder agencies and other organizations.</li> </ul>



## TOTAL BUDGET AND WORKPLAN

<b>Award ID:</b>	00058549	<b>Project ID(s):</b>	00072751
<b>Award Title:</b>	PIMS 4095 MSP PCB JOR		
<b>Business Unit:</b>	JOR10		
<b>Project Title:</b>	Implementation of Phase I of a comprehensive PCB management system in the Hashemite Kingdom of Jordan		
<b>PIMS no.</b>	4095		
<b>Implementing Partner (Executing Agency)</b>	t.b.d.		

GEF Outcome/Atlas Activity	Responsible Party/Implementing Agent	Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Total (USD)	See Budget Note:
<b>OUTCOME 1:</b> Regulatory and administrative strengthening for PCB management.	<b>NIM</b>	<b>62000</b>	<b>GEF</b>	71200	International Consultants	\$5,000	-	-	-	\$5,000	x
				71300	Local Consultants	\$25,000	\$10,000	-	-	\$35,000	x
				72100	Contractual services	\$15,000	\$10,000	-	-	\$25,000	x
				<b>Total Outcome 1</b>		<b>\$45,000</b>	<b>\$20,000</b>	<b>-</b>	<b>-</b>	<b>\$65,000</b>	
<b>OUTCOME 2:</b> Improving PCB inventory and technical capacity for Environmentally Sound Management (ESM) of PCB equipment and materials	<b>NIM</b>	<b>62000</b>	<b>GEF</b>	71200	International Consultants	\$15,000	\$10,000	-	-	\$25,000	x
				71300	Local Consultants	\$25,000	\$25,000	\$25,000	-	\$75,000	x
				72300	Materials and goods	\$50,000	\$120,000	-	-	\$170,000	x
				72100	Contractual services	\$40,000	\$30,000	\$10,000	-	\$80,000	x
				<b>Total Outcome 2</b>		<b>\$130,000</b>	<b>\$185,000</b>	<b>\$35,000</b>	<b>-</b>	<b>\$350,000</b>	
<b>OUTCOME 3:</b> Demonstration projects for testing ESM system and disposal of PCB containing equipment	<b>NIM</b>	<b>62000</b>	<b>GEF</b>	71200	International Consultants	-	\$15,000	\$15,000	-	\$30,000	x
				71300	Local Consultants	-	\$15,000	\$15,000	-	\$30,000	x
				72100	Contractual services	-	\$100,000	\$235,000	-	\$335,000	(disposal)
				71600	Travel	-	\$3,000	\$2,000	-	\$5,000	x
				<b>Total Outcome 3</b>		<b>-</b>	<b>\$133,000</b>	<b>\$267,000</b>	<b>-</b>	<b>\$400,000</b>	

<b>OUTCOME 4:</b> Monitoring, learning, adaptive feedback and evaluation	<b>NIM</b>	<b>62000</b>	<b>GEF</b>	71200	International Consultants	-	\$20,000	\$20,000	-	\$40,000	x
					<b>Total Outcome 4</b>	<b>-</b>	<b>\$20,000</b>	<b>\$20,000</b>	<b>-</b>	<b>\$40,000</b>	
<b>PROJECT MANAGEMENT UNIT</b>	<b>NIM</b>	<b>62000</b>	<b>GEF</b>	71300	Local Consultants	\$22,600	\$22,600	\$22,800	-	\$68,000	x
				71600	Travel	-	\$5,000	\$5,000	-	\$10,000	x
				72200	Equipment	\$10,000	-	-	-	\$10,000	x
				74500	Miscellaneous (office supplies, communication)	\$1,000	\$1,000	\$1,000	-	\$3,000	x
				74500	Miscellaneous (audit)	\$1,000	\$1,500	\$1,500	-	\$4,000	x
					<b>Total Management</b>	<b>\$38,600</b>	<b>\$28,100</b>	<b>\$28,300</b>	<b>-</b>	<b>\$95,000</b>	
<b>PROJECT TOTAL</b>						<b>\$213,600</b>	<b>\$386,100</b>	<b>\$350,300</b>	<b>-</b>	<b>\$950,000</b>	

Summary of  
Funds:<sup>7</sup>

	Amount Year 1	Amount Year 2	Amount Year 3	Amount Year 4	Total
<b>GEF</b>	<b>\$213,600</b>	<b>\$386,100</b>	<b>\$350,300</b>	-	<b>\$950,000</b>
<b>Government in-cash</b>	\$100,000	\$100,000	-	-	\$200,000
<b>Government in-kind</b>	\$200,000	\$300,000	\$30,000	-	\$530,000
<b>UNDP in-cash</b>	\$50,000	\$50,000	\$50,000	-	\$150,000
<b>Private sector in-cash</b>	\$200,000	\$200,000	\$200,000	-	\$600,000
<b>Private sector in-kind</b>	\$300,000	\$400,000	-	-	\$700,000
<b>Co-Financing Total</b>	<b>\$850,000</b>	<b>\$1,050,000</b>	<b>\$280,000</b>	-	<b>\$2,180,000</b>
<b>TOTAL</b>	<b>\$1,063,600</b>	<b>\$1,436,100</b>	<b>\$630,300</b>	-	<b>\$3,130,000</b>

<sup>7</sup> Summary table should include all financing of all kinds: GEF financing, cofinancing, cash, in-kind, etc...

**WORK PLAN (IMPLEMENTATION SCHEDULE)**

The implementation schedule will be prepared at the project inception and approved at the first meeting of the PSC.

### **3. MANAGEMENT ARRANGEMENTS SEE [UNDP POPP](#) FOR FURTHER DETAILS**

The project will be executed following established UNDP national execution (NEX) procedures. The NEX Advances modality will be applied which will entail using the MoEnv financial systems.

A Project Board (PB) will be established by the IP to provide strategic, long-term guidance for the project and provide consultations whenever needed. The PB will make recommendations on issues such as the prioritization of project activities, shifts in strategic direction when required and also help to secure project partnerships with other relevant institutions. The PB will meet twice a year and include a high official representative from MoEnv (Chair), UNDP and the GEF Operational Focal Point, and the Jordanian Ministry of Planning and International Cooperation (MOPIC).

The IP will designate the Director of the Hazardous Substances and Waste Management Directorate as a National Project Manager (NPM) to be dedicated for the project implementation, and will hire through the GEF fund two experts with background in electrical engineering and an administrative/financial assistant, where the salaries of this staff will be covered by the Ministry of environment after the project completion to ensure the sustainability of the project activities. A summary of the roles and responsibilities of the (NPM), the two expert engineers, and the administrative/financial Assistant is provided below.

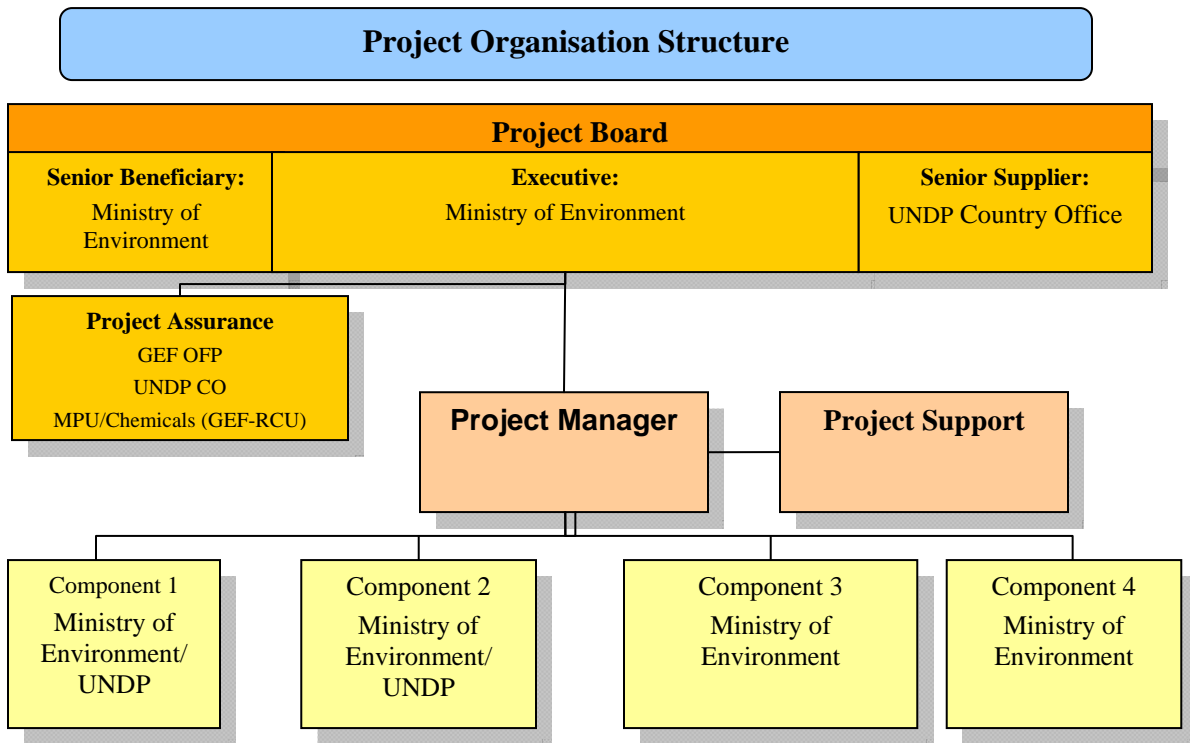
The NPM will assume overall responsibility for the successful implementation of project activities and the achievement of planned project outputs. She/he will work closely with the national and international experts hired under the project, as well as the Project Assistant, and will report to the PB and to the UNDP Country Office (UNDP CO). The two expert engineers will provide technical support to the NPM and the relevant stakeholders on day-to-day project activities. The Administrative and Financial Assistant will provide assistance to the NPM and the project staff. She/he is responsible for all administrative (contractual, organizational and logistical) and accounting (disbursements, record-keeping, cash management) matters related to the project.

The IP will establish the Project Advisory Committee (PAC) to oversee the implementation of the project. The (PAC) will provide overall guidance and direction to the project implementation, in accordance with the project document and annual work plan, overseeing the project's technical progress and providing recommendations for its improvement, where necessary, reviewing Project Monitoring and Evaluation Plan that will assess the project success, ensuring coordination of project activities with related national and donor-funded initiatives, advocating to the project outcomes, outputs and activities. The PAC will meet on quarterly basis and include representatives from MoEnv (chair) and all relevant institutions, industries, eclectic companies.

UNDP CO will play the role of Senior Supplier—being a GEF Implementing Agency represented in the country. Project assurance will be ensured by GEF OFF, UNDP CO together with the UNDP GEF RCU. The PB will monitor the project's implementation, provide guidance and advice, and facilitate communication, cooperation, and coordination among stakeholders and other project partners. At the initial stage of project implementation, the PB may, if deemed advantageous, wish to meet more frequently to build common understanding and to ensure that the project is initiated properly. Further details on the PB are provided in the monitoring and evaluation section of the document. The project will hire short-term national and international experts for specific project assignments (see Annex C for indicative scope of the assignment of key experts/ consultants). Project activities will be contracted out on a competitive basis through tenders.

The project will be implemented in close coordination and collaboration with all relevant government institutions, regional authorities, industries, electric companies and NGOs, as well as with other related relevant projects in the region. The UNDP-CO will be an active partner in the project's implementation. It will support implementation by monitoring the project budget and project expenditures, contracting project personnel, experts and subcontractors, undertaking procurement, and providing other assistance upon request of the IP. The UNDP-CO will also monitor the project's implementation and achievement of the project outcomes and outputs, and will ensure the proper use of UNDP/GEF funds. Financial

transactions, reporting and auditing will be carried out in compliance with national regulations and established UNDP rules and procedures for national project execution.



Project Board is responsible for making management decisions for a project in particular when guidance is required by the Project Manager. The Project Board plays a critical role in project monitoring and evaluations by quality assuring these processes and products, and using evaluations for performance improvement, accountability and learning. It ensures that required resources are committed and arbitrates on any conflicts within the project or negotiates a solution to any problems with external bodies. In addition, it approves the appointment and responsibilities of the Project Manager and any delegation of its Project Assurance responsibilities. Based on the approved Annual WorkPlan, the Project Board can also consider and approve the quarterly plans (if applicable) and also approve any essential deviations from the original plans.

In order to ensure UNDP’s ultimate accountability for the project results, Project Board decisions will be made in accordance to standards that shall ensure management for development results, best value money, fairness, integrity, transparency and effective international competition. In case consensus cannot be reached within the Board, the final decision shall rest with the UNDP Project Manager.

Potential members of the Project Board are reviewed and recommended for approval during the PAC meeting. Representatives of other stakeholders can be included in the Board as appropriate. The Board contains three distinct roles, including:

- 1) An Executive: individual representing the project ownership to chair the group.
- 2) Senior Supplier: individual or group representing the interests of the parties concerned which provide funding for specific cost sharing projects and/or technical expertise to the project. The

Senior Supplier's primary function within the Board is to provide guidance regarding the technical feasibility of the project.

- 3) Senior Beneficiary: individual or group of individuals representing the interests of those who will ultimately benefit from the project. The Senior Beneficiary's primary function within the Board is to ensure the realization of project results from the perspective of project beneficiaries.
- 4) The Project Assurance role supports the Project Board Executive by carrying out objective and independent project oversight and monitoring functions. The Project Manager and Project Assurance roles should never be held by the same individual for the same project.

**Project Manager:** The Project Manager has the authority to run the project on a day-to-day basis on behalf of the Implementing Partner within the constraints laid down by the Board. The Project Manager's prime responsibility is to ensure that the project produces the results specified in the project document, to the required standard of quality and within the specified constraints of time and cost.

**Project Support:** The Project Support role provides project administration, management and technical support to the Project Manager as required by the needs of the individual project or Project Manager.

The project will be implemented in close coordination and collaboration with all relevant government institutions, regional authorities, industries and NGOs, as well as with other related relevant projects in the region.

The UNDP-CO will be an active partner in the project's implementation. It will support implementation by maintaining the project budget and project expenditures, contracting project personnel, experts and subcontractors, undertaking procurement, and providing other assistance upon request of the National Executing Agency. The UNDP-CO will also monitor the project's implementation and achievement of the project outcomes and outputs, and will ensure the proper use of UNDP/GEF funds. Financial transactions, reporting and auditing will be carried out in compliance with national regulations and established UNDP rules and procedures for national project execution. PCB holding companies will operate through their revised internal guidelines in procuring replacement equipment and other services as their part of project financing.

In order to accord proper acknowledgement to GEF for providing funding, a GEF logo will appear on all relevant GEF project publications, including, among others, project hardware purchased with GEF funds. Any citation on publications regarding this project will also accord proper acknowledgment to GEF.

#### **4. MONITORING FRAMEWORK AND EVALUATION**

The project will be monitored through the following M& E activities. The M& E budget is provided in the table below.

##### **Project start:**

A Project Inception Workshop will be held within the first 2 months of project start with those with assigned roles in the project organization structure, UNDP country office and where appropriate/feasible regional technical policy and programme advisors as well as other stakeholders. The Inception Workshop is crucial to building ownership for the project results and to plan the first year annual work plan.

The Inception Workshop should address a number of key issues including:



- a) Assist all partners to fully understand and take ownership of the project. Detail the roles, support services and complementary responsibilities of UNDP CO as executing agency, the Ministry of Environment as implementing and executing agency and the project team. Discuss the roles, functions, and responsibilities within the project's decision-making structures, including reporting and communication lines, and conflict resolution mechanisms. The Terms of Reference for project staff will be discussed again as needed.
- b) The GEF-4 and as appropriate GEF-5 Focal Area Strategy inclusive of targets will be presented and linked to project outcomes, outputs and indicators.
- c) Based on the project results framework and the relevant GEF Tracking Tool if appropriate, finalize the first annual work plan. Review and agree on the indicators, targets and their means of verification, and recheck assumptions and risks.
- d) Provide a detailed overview of reporting, monitoring and evaluation (M&E) requirements. The Monitoring and Evaluation work plan and budget should be agreed and scheduled.
- e) Discuss financial reporting procedures and obligations, and arrangements for annual audit.
- f) Establish a project steering committee (PSC) and define its role in the project.
- g) Plan and schedule PSC meetings. Roles and responsibilities of all project organization structures should be clarified and meetings planned. The first PSC meeting should be held within the first 6 months following the inception workshop.

An Inception Workshop report is a key reference document and must be prepared and shared with participants to formalize various agreements and plans decided during the meeting.

#### **Quarterly:**

- Progress made shall be monitored in the UNDP Enhanced Results Based Management Platform.
- Based on the initial risk analysis submitted, the risk log shall be regularly updated in ATLAS. Risks become critical when the impact and probability are high. Note that for UNDP GEF projects, all financial risks associated with financial instruments such as revolving funds, microfinance schemes, or capitalization of ESCOs are automatically classified as critical on the basis of their innovative nature (high impact and uncertainty due to no previous experience justifies classification as critical).
- Based on the information recorded in Atlas, a Project Progress Reports (PPR) can be generated in the Executive Snapshot.
- Other ATLAS logs can be used to monitor issues, lessons learned etc... The use of these functions is a key indicator in the UNDP Executive Balanced Scorecard.

#### **Annually:**

- Annual Project Review/Project Implementation Reports (APR/PIR): This key report is prepared to monitor progress made since project start and in particular for the previous reporting period (01 January to 31 December). The APR/PIR combines both UNDP and GEF reporting requirements.

The APR/PIR includes, but is not limited to, reporting on the following:

- Progress made toward project objective and project outcomes - each with indicators, baseline data and end-of-project targets (cumulative)
- Project outputs delivered per project outcome (annual).
- Lesson learned/good practice.
- AWP and other expenditure reports

- Risk and adaptive management
- ATLAS QPR
- Portfolio level indicators (i.e. GEF focal area tracking tools) are used by most focal areas on an annual basis as well.

### **Periodic Monitoring through site visits:**

UNDP CO and the UNDP RCU will conduct visits to project sites based on the agreed schedule in the project's Inception Report/Annual Work Plan to assess first hand project progress. Other members of the Project Board may also join these visits. The international expert undertaking independent monitoring, particularly in relation to environmental safeguards will be part of these visits. A Field Visit Report will be prepared by the CO and UNDP RCU and will be circulated no less than one month after the visit to the project team and PSC members.

### **Mid-term of project cycle:**

The project will undergo an independent Mid-Term Evaluation at the mid-point of project implementation (June 2012). The Mid-Term Evaluation will determine progress being made toward the achievement of outcomes and will identify course correction if needed. It will focus on the effectiveness, efficiency and timeliness of project implementation; will highlight issues requiring decisions and actions; and will present initial lessons learned about project design, implementation and management. Findings of this review will be incorporated as recommendations for enhanced implementation during the final half of the project's term. The organization, terms of reference and timing of the mid-term evaluation will be decided after consultation between the parties to the project document. The Terms of Reference for this Mid-term evaluation will be prepared by the UNDP CO based on guidance from the Regional Coordinating Unit and UNDP-GEF. The management response and the evaluation will be uploaded to UNDP corporate systems, in particular the [UNDP Evaluation Office Evaluation Resource Center \(ERC\)](#).

The relevant GEF Focal Area Tracking Tools will also be completed during the mid-term evaluation cycle.

### **End of Project:**

An independent Final Evaluation will take place three months prior to the final PSC meeting and will be undertaken in accordance with UNDP and GEF guidance. The final evaluation will focus on the delivery of the project's results as initially planned (and as corrected after the mid-term evaluation, if any such correction took place). The final evaluation will look at impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental benefits/goals. This will include input from the Independent expert undertaking environmental safeguards monitoring on the overall environmental performance achieved in relation to PCB storage and disposal activities. The Terms of Reference for this evaluation will be prepared by the UNDP CO based on guidance from the Regional Coordinating Unit and UNDP-GEF.

The Terminal Evaluation should also provide recommendations for follow-up activities and requires a management response which should be uploaded to PIMS and to the [UNDP Evaluation Office Evaluation Resource Center \(ERC\)](#).

The relevant GEF Focal Area Tracking Tools will also be completed during the final evaluation.

During the last three months, the project team will prepare the Project Terminal Report. This comprehensive report will summarize the results achieved (objectives, outcomes, outputs), lessons learned, problems met and areas where results may not have been achieved. It will also lay out recommendations for any further steps that may need to be taken to ensure sustainability and replicability of the project's results.

### Learning and knowledge sharing:

Results from the project will be disseminated within and beyond the project intervention zone through existing information sharing networks and forums.

The project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be of benefit to project implementation though lessons learned. The project will identify, analyze, and share lessons learned that might be beneficial in the design and implementation of similar future projects.

Finally, there will be a two-way flow of information between this project and other projects of a similar focus.

### M&E Work Plan and budget

Type of M&E activity	Responsible Parties	Budget US\$	Time frame
Inception Workshop and Report	<ul style="list-style-type: none"> <li>▪ Project Manager and team</li> <li>▪ UNDP CO, UNDP GEF</li> <li>▪ International Technical Support/Safeguards Expert</li> </ul>	Staff time	Within first two months of project start up
Measurement of Means of Verification of project results.	<ul style="list-style-type: none"> <li>▪ UNDP GEF RTA/Project Manager will oversee the hiring of specific studies and institutions, and delegate responsibilities to relevant team members.</li> </ul>	None	Start, mid and end of project (during evaluation cycle) and annually when required.
Measurement of Means of Verification for Project Progress on <i>output and implementation</i>	<ul style="list-style-type: none"> <li>▪ Oversight by Project Manager</li> <li>▪ Project team</li> </ul>	None	Annually prior to ARR/PIR and to the definition of annual work plans
ARR/PIR	<ul style="list-style-type: none"> <li>▪ Project manager and team</li> <li>▪ UNDP CO</li> <li>▪ UNDP PTA/RTA</li> <li>▪ UNDP EEG</li> </ul>	None	Annually
Periodic status/	<ul style="list-style-type: none"> <li>▪ Project manager and team</li> </ul>	None	Quarterly

Type of M&E activity	Responsible Parties	Budget US\$	Time frame
progress reports			
Mid-term Evaluation	<ul style="list-style-type: none"> <li>▪ Project manager and team</li> <li>▪ UNDP CO</li> <li>▪ UNDP RCU</li> <li>▪ External Consultants (i.e. evaluation team)</li> </ul>	Indicative cost: 20,000	At the mid-point of project implementation.
Final Evaluation	<ul style="list-style-type: none"> <li>▪ Project manager and team,</li> <li>▪ UNDP CO</li> <li>▪ UNDP RCU</li> <li>▪ External Consultants (i.e. evaluation team)</li> </ul>	Indicative cost: 20,000	At least three months before the end of project implementation
Project Terminal Report	<ul style="list-style-type: none"> <li>▪ Project manager and team</li> <li>▪ UNDP CO</li> <li>▪ local consultant</li> <li>▪ International Technical Support/Safeguards Expert</li> </ul>	Staff time	At least three months before the end of the project
Audit	<ul style="list-style-type: none"> <li>▪ UNDP CO</li> <li>▪ Project manager and team</li> </ul>	None (cost in PM Budget)	Yearly
Visits to field sites	<ul style="list-style-type: none"> <li>▪ UNDP CO</li> <li>▪ UNDP RCU (as appropriate)</li> <li>▪ Government representatives</li> </ul>	For GEF supported projects, paid from IA fees and operational budget	Yearly
<b>TOTAL indicative COST</b>			
Excluding project team staff time and UNDP staff and travel expenses		US\$ 40,000 <sup>8</sup>	

## 5. LEGAL CONTEXT

This document together with the CPAP signed by the Government and UNDP which is incorporated by reference constitute together a Project Document as referred to in the SBAA and all CPAP provisions apply to this document.

Consistent with the Article III of the Standard Basic Assistance Agreement, the responsibility for the safety and security of the implementing partner and its personnel and property, and of UNDP's property in the implementing partner's custody, rests with the implementing partner.

The implementing partner shall:

- a) put in place an appropriate security plan and maintain the security plan, taking into account the security situation in the country where the project is being carried;

<sup>8</sup> Costs only for International Consultant supporting M&E as part of Technical support/safeguards monitoring. It is estimated that additional US\$20,000 from project management salaries will be devoted to M&E activities. Audit costs in the Project Management component are US\$5,000.

- b) assume all risks and liabilities related to the implementing partner's security, and the full implementation of the security plan.

UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. Failure to maintain and implement an appropriate security plan as required hereunder shall be deemed a breach of this agreement.

The implementing partner agrees to undertake all reasonable efforts to ensure that none of the UNDP funds received pursuant to the Project Document are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by UNDP hereunder do not appear on the list maintained by the Security Council Committee established pursuant to resolution 1267 (1999). The list can be accessed via <http://www.un.org/Docs/sc/committees/1267/1267ListEng.htm>. This provision must be included in all sub-contracts or sub-agreements entered into under this Project Document.

This Project Document shall be the instrument referred to as such in Article I of the Standard Basic Assistance Agreement between the Government of Jordan and the United Nations Development Programme, signed by the parties in 1976. The host country implementing agency shall, for the purpose of the Standard Basic Assistance Agreement, refer to the government co-operating agency described in that Agreement.

The UNDP Resident Representative in Jordan is authorized to effect in writing the following types of revision to this Project Document, provided that he/she has verified the agreement thereto by the UNDP-GEF Unit and is assured that the other signatories to the Project Document have no objection to the proposed changes:

- a) Revision of, or addition to, any of the annexes to the Project Document;
- b) Revisions which do not involve significant changes in the immediate objectives, outputs or activities of the project, but are caused by the rearrangement of the inputs already agreed to or by cost increases due to inflation;
- c) Mandatory annual revisions which re-phase the delivery of agreed project inputs or increased expert or other costs due to inflation or take into account agency expenditure flexibility; and
- d) Inclusion of additional annexes and attachments only as set out here in this Project Document.

## 6. ANNEXES

**Risk Analysis.** *Use the standard UNDP Atlas [Risk Log template](#). For UNDP GEF projects in particular, please outline the risk management measures including improving resilience to climate change that the project proposes to undertake.*

The Project Indicators, Risks and Assumptions are fully represented in the Strategic Results Framework (Annex A) as well as the Risk Identification and Mitigation tables in the corresponding GEF CEO Endorsement Document. It is strongly advised to refer to these indicated annexes and sections of the CEO endorsement document.

**Agreements.** *Any additional agreements, such as cost sharing agreements, project cooperation agreements signed with NGOs<sup>9</sup> (where the NGO is designated as the “executing entity”, letters of financial commitments, GEF OFP letter, GEF PIFs and other templates for all project types) should be attached.*

GEF OFP Endorsement letter is attached to the submission package

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<sup>9</sup> *For GEF projects, the agreement with any NGO pre-selected to be the main contractor should include the rationale for having pre-selected that NGO.*



## **Terms of Reference:**

### **National Project Manager**

Interest in Poly-Chlorinated Biphenyls, PCBs, is due to their harmful effects and tendency for long-range transboundary environmental transport. They have been included in the initial list of globally managed Persistent Organic Pollutants under the Stockholm Convention.

Jordan is committed to safe management of PCB as demonstrated by signature of the Stockholm Convention and its subsequent ratification. For planning appropriate action in the field of controlling POPs substances and releases as well as fulfilling the reporting requirements of the Convention, Government of Jordan developed an Action Plan for PCB management as a part of its draft National Implementation Plan (NIP) on POPs.

The PCB Action Plan evolved into a project which is a joint undertaking by The Government of Jordan, public/private sector partners and UNDP. The Global Environment Facility is providing substantive grant funding for co-financing the project.

Reporting directly to the National Project Director, A Project Manager will be recruited for the entire implementation period of the project.

As per UNDP guidelines in force the Project Manager is responsible for

- Timely implementation of the workplan as endorsed by the Project Steering Committee;
- General and financial administration;
- Work planning, scheduling and project progress reporting;
- Monitoring project deliverables and ensuring M&E activities are incorporated in project planning;
- Writing of Terms of Reference for project support staff, project consultants;
- Tendering of contractual services where applicable;
- Monitoring and the quality control, particularly on safety, of input from consultants and subcontractors providing assistance to the project;
- Support the tendering for international services pertaining to PCB waste transportation and disposal;
- Coordinate Documentation related to transboundary shipment of hazardous waste

The Project Manager shall coordinate the contracting of entities responsible for the capacity building, training, transporting, collection and proper storage as well as final disposal of the PCB equipment and monitor their performance.

Duration of assignment: 3 years

Qualifications:

- A degree in Management, Engineering, physical sciences or economics;
- Thorough knowledge of legislation and management of hazardous waste
- Knowledge of industrial sized power equipment and their management desirable.
- Minimum of five years post qualification experience at mid-management level
- Knowledge of the Stockholm Convention and Persistent Organic Pollutants highly desirable;
- Experience in the management of Environmental issues desirable;
- Must be fully IT literate.
- Working knowledge of English

**Note:** Additional TORs for project staff and experts will be developed when the programme will be initiated.

**SIGNATURE PAGE**

**Country:** Jordan

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UNDAF Outcome (s)/Indicator (s): Sustainable Management of Natural resources and environment

Indicator (s): (i) national priorities and strategic actions identified, and (ii) % of Hazardous waste correctly disposed

CPAP Outcome (s)/Indicator (s): CPAP Outcome (s): Enhanced capacities for safer management of hazardous waste

Indicator (s): (i) amount of Hazardous (PCB) waste disposed correctly according to international criteria, and (ii) percentage reduction in the number of PCB contaminated areas

CPAP Output (s)/Indicator (s): Enhanced national Capacity to implement the National Implementation Plan related to Persistent Organic Pollutants (POPs) in accordance with the Stockholm Convention

Indicators: (i) PCB related regulations and associated guidelines developed and submitted to the government for approval, (ii) National pilot PCB disposal plant operationalized at selected site, (iii) number of staff trained to manage national POPs unit at the Ministry of Environment, and (iv) number of PCB manufacturers, PCB materials and containing equipments registered for product labelling and disposal.

**Executing Entity/Implementing Partner:** Ministry of Environment

**Implementing entity/Responsible Partner:** Ministry of Environment

Programme Period:	2009-2012
Atlas Award ID:	00058549
Project ID:	00072751
PIMS #	4095
Start date:	November 2010
End Date	July 2013
Management Arrangements	NEX
PAC Meeting Date	t.b.d.

Total resources required	US\$ 2,001,000
Total allocated resources:	
• Regular	
• Other:	
o GEF	US\$ 950,000
o Government	US\$ 320,000
o In-kind	US\$ 600,000
o Other	US\$ 131,000
In-kind contributions	

**Agreed by (Government):** Ministry of Planning and International Cooperation

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NAME	SIGNATURE	Date/Month/Year
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**Agreed by (Executing Entity/Implementing Partner):** Ministry of Environment

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NAME	SIGNATURE	Date/Month/Year
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**Agreed by (UNDP):**

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NAME	SIGNATURE	Date/Month/Year
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**Annex 2: UNDP Strategic Plan: Key Focal Areas + Key result areas + Provisional Corporate Outcomes**

<i>Key Focal Area</i>	<i>Key result area</i>	<i>Provisional Corporate Outcomes</i>
<b>Poverty Reduction and MDG achievement</b>	1. Promoting inclusive growth, gender equality and MDG achievement	1. MDG-based national development strategies promote growth and employment, and reduce economic, gender and social inequalities
		2. Enhanced national and local capacities to plan, monitor, report and evaluate the MDGs and related national development priorities, including within resource frameworks.
		3. Policies, institutions and mechanisms that facilitate the empowerment of women and girls strengthened and implemented.
		4. Macroeconomic policies, debt-sustainability frameworks, and public financing strategies promote inclusive growth and are consistent with achieving the MDGs.
		5. Strengthened capacities of local governments and other stakeholders to foster participatory local development for the MDGs.
		6. Policies, strategies and partnerships established to promote public-private sector collaboration and private-sector and market development that benefits the poor and ensures that low-income households and small enterprises have access to a broad range of financial and legal services.
	2. Fostering inclusive globalization	1. Enhanced capacities of developing countries to compete internationally and to negotiate interpret and implement agreements on trade, intellectual property, and investments in a manner which prioritizes poverty and inequality reduction and human development. 2. Strengthened national capacities to negotiate and manage development finance, including aid and debt, consistent with the achievement of the MDGs and other internationally agreed development goals.
	3. Mitigating the impact of AIDS on human development	1. AIDS response integrated into poverty reduction strategies, MDG-based national development plans, and macroeconomic processes. 2. Strengthened national capacity for inclusive governance and coordination of AIDS responses, and increased participation of civil society entities and people living with HIV in the design, implementation and evaluation of AIDS programmes. 3. Policies and programmes implemented through multi-stakeholder approaches to protect the human rights of people affected by AIDS. Mitigate gender-related vulnerability, and address the impact of AIDS on women and girls. 4. Accelerated implementation of AIDS funds and programmes financed through multilateral funding initiatives, including the Global Fund to fight AIDS, Tuberculosis, and Malaria.
<b>Democratic governance</b>	1. Fostering inclusive participation	1. Civic engagement, through civil society organizations, voluntary associations, trade unions, political parties, and private sector organization, enables all people to influence public policy processes.
		2. Electoral laws, processes and institutions strengthen inclusive participation and professional electoral administration.
		3. Communication channels support government accountability and transparency through e-governance, independent journalism, and access to information policies.
	2. Strengthening responsive governing institutions	1. National, regional and local levels of governance expand their capacities to manage the equitable delivery of public services and support conflict reduction. 2. Legislatures, regional elected bodies, and local assemblies have strengthened institutional capacity, enabling them to represent their constituents more effectively.

		3. Effective, responsive, accessible and fair justice systems promote the rule of law, including both formal and informal processes, with due consideration on the rights of the poor, women and vulnerable groups.
	3. Support national partners to implement democratic governance practices grounded in human rights, gender equality and anti-corruption	<p>1. Strengthened national, regional and local level capacity to mainstream human rights in government policies and institutions.</p> <p>2. Strengthened national, regional and local level capacity to mainstream gender equality and women's empowerment in government policies and institutions.</p> <p>3. Strengthened national, regional, and local-level capacity to implement anti-corruption initiatives.</p>
<b>Crisis Prevention</b>	1. Enhancing conflict and disaster risk management capabilities	<p>1. Solutions generated for natural disaster risk management and conflict prevention through common analysis and inclusive dialogue among government, relevant civil society actors and other partners (i.e. UN, other international organizations, bilateral partners).</p> <p>2. Disaster – strengthened national capacities, including the participation of women to prevent, reduce, mitigate and cope with the impact of the systemic shocks from natural hazards.</p> <p>3. Conflict – strengthened national capacities, including the participation of women, to prevent, reduce, mitigate and cope with the impact of violent conflict.</p> <p>4. Other</p>
	2. Strengthening post-crisis governance	<p>1. Early post-crisis resumption of local governance functions to facilitate recovery.</p> <p>2. Disaster – post disaster governance capacity strengthened, including measures to ensure the reduction of future vulnerabilities.</p> <p>3. Conflict – post-conflict governance capacity strengthened, including measures to work towards prevention of resumption of conflict.</p> <p>4. Other</p>
	3. Restoring the foundations for development at local level	<p>1. Gender equality and women's empowerment enhanced in post-disaster and post-conflict situations.</p> <p>2. Conflict – post-crisis community security and social cohesion restored.</p> <p>3. Post-crisis socio-economic infrastructure restored, economy revived and employment generated; crisis affected groups returned and reintegrated.</p> <p>4. other</p>
<b>Environment and sustainable development</b>	1. Mainstreaming environment and energy	<p>1. Strengthened national capacities to mainstream environment and energy concerns into national development plans and implementation systems.</p> <p>2. Other</p>
	2. Catalyzing environmental finance	<p>1. Countries develop and use market mechanisms to support environmental management.</p> <p>2. other</p>
	3. Promote climate change adaptation	<p>1. Strengthened capacity of developing countries to mainstream climate change adaptation policies into national development plans.</p> <p>2. Other</p>
	4. Expanding access to environmental and energy services for the poor.	<p>1. Strengthened capacity of local institutions to manage the environment and expand environment and energy services, especially to the poor.</p> <p>2. Other</p>