



# PROJECT IDENTIFICATION FORM (PIF) <sup>1</sup>

PROJECT TYPE: Full-sized Project

TYPE OF TRUST FUND: GEF Trust Fund

## PART I: PROJECT IDENTIFICATION

Project Title:	Environmentally sound management and disposal of PCBs and medical wastes		
Country(ies):	Bangladesh	GEF Project ID: <sup>2</sup>	4858
GEF Agency(ies):	UNIDO (select) (select)	GEF Agency Project ID:	XXBGD11X03
Other Executing Partner(s):	Department of Environment of the Ministry of Environment and Forests	Submission Date:	2013-01-31
GEF Focal Area (s):	Persistent Organic Pollutants	Project Duration (Months)	48
Name of parent program (if applicable): ➤ For SFM/REDD+ <input type="checkbox"/>		Agency Fee (\$):	285,000

## A. FOCAL AREA STRATEGY FRAMEWORK<sup>3</sup>:

Focal Area Objectives	Expected FA Outcomes	Expected FA Outputs	Trust Fund	Indicative Grant Amount (\$)	Indicative Co-financing (\$)
(select) CHEM-1	Outcome 1.3 POPs releases to the environment reduced.	Output 1.3.1 Action plans addressing un-intentionally produced POPs under development and implementation.	GEFTF	700,000	2,000,000
(select) CHEM-1	Outcome 1.4 POPs waste prevented, managed and disposed of, and POPs contaminated sites managed in an environmentally sound manner.	Output 1.4.1 PCB management plans under development and implementation	GEFTF	2,157,500	9,430,000
(select) (select)			(select)		
(select) (select)			(select)		
(select) (select)			(select)		
(select) (select)			(select)		
(select) (select)			(select)		
(select) (select)			(select)		
(select) (select)	Others		(select)		
Sub-Total				2,857,500	11,430,000
Project Management Cost <sup>4</sup>			GEFTF	<b>142,500</b>	570,000
<b>Total Project Cost</b>				3,000,000	12,000,000

## B. PROJECT FRAMEWORK

<sup>1</sup> It is very important to consult the PIF preparation guidelines when completing this template.

<sup>2</sup> Project ID number will be assigned by GEFSEC.

<sup>3</sup> Refer to the reference attached on the [Focal Area Results Framework](#) when filling up the table in item A.

<sup>4</sup> GEF will finance management cost that is solely linked to GEF financing of the project. PMC should be charged proportionately to focal areas based on focal area project grant amount.

**Project Objective: The objective of this project is to assist Bangladesh in fulfilling its obligations under the Stockholm Convention by (1) reducing the release of PCBs to the environment, and (2) improving healthcare waste management in the country to reduce the emission of dioxin/furan from disposal activities.**

<b>Project Component</b>	<b>Grant Type</b>	<b>Expected Outcomes</b>	<b>Expected Outputs</b>	<b>Trust Fund</b>	<b>Indicative Grant Amount (\$)</b>	<b>Indicative Cofinancing (\$)</b>
1. Institutional and regulatory framework and technical capacities for environmentally sound management of PCB-contaminated equipment and waste meeting BAT/BEP requirements	TA	Strengthening of policy and regulatory framework strengthened to meet the mandates of the Stockholm Convention for phasing out of (all possible) PCB contaminated equipment by 2025 and dispose of the phased out equipment by 2028; improvement of capacity of power sectors and transformer maintenance companies for (environmentally) sound management of PCB and incorporation of legislation for final disposal of PCBs	1.1 Procedures, regulations and technical guidelines for ESM of PCBs drafted, approved, and updated 1.2 PCB inventory and labeling of electrical equipment updated and maintained in power sectors 1.3 Key stakeholders and the general public aware of risks associated with PCBs 1.4 Capacity of 2 designated laboratories including DoE laboratories for sampling and analysis of PCBs and National Standard laboratories for monitoring of PCBs analysis strengthened 1.5 Phase out plans for PCB containing equipment and waste developed and incorporated into the power sector development plan 1.6 BAT/BEP technology options for the PCB destruction implemented, and at least 500 tons of PCB oil, PCB-contaminated equipment and wastes disposed of in an environmentally sound manner	GEFTF	2,157,500	9,430,000

2. Minimization / Elimination of uncontrolled POPs (i.e. PCDD and PCDF) generated from the medical waste through the introduction of BAT/BEP and Public-private partnership (PPP) as an alternative mode of service delivery	TA	Harmonization of policies/guidelines on healthcare waste management including enhanced coordination among stakeholders; implementation of ESM of medical waste by policy enforcers, medical waste generators and service providers and encouragement of PPP mode of service delivery for implementation and demonstration of pilot BAT/BEP	2.1 Policy and/or guidelines on proper medical waste (from the point of generation to final disposal) drafted for govt. approval 2.2 Sources of UP-POPs from medical waste management stream assessed, evaluated and subsequent BAT/BEP implemented 2.3 Capacity of key stakeholders of PPP strengthened to adopt and deploy BAT/BEP for ESM of medical waste 2.4 At least 1 PPP project site for ESM of medical waste demonstrated (with focus on transport and disposal) 2.5 Lessons learned from pilot project disseminated for replication in similar sites	GEFTF	600,000	1,600,000	
3. Impact monitoring and evaluation	TA	Assessment of the impact of project activities	3.1. Impact indicators designed and applied 3.2 Project implementation and impacts evaluated	GEFTF	100,000	400,000	
	(select)			(select)			
	(select)			(select)			
	(select)			(select)			
	(select)			(select)			
	(select)			(select)			
	(select)			(select)			
	(select)			(select)			
Sub-Total						2,857,500	11,430,000
Project Management Cost <sup>5</sup>				GEFTF	142,500	570,000	
<b>Total Project Costs</b>						<b>3,000,000</b>	<b>12,000,000</b>

### C. INDICATIVE CO-FINANCING FOR THE PROJECT BY SOURCE AND BY NAME IF AVAILABLE, (\$)

Sources of Cofinancing	Name of Cofinancier	Type of Cofinancing	Amount (\$)
National Government	Government of Bangladesh	In-kind	1,500,000
National Government	Power Development Board	Grant	2,000,000
National Government	Power Development Board	In-kind	4,000,000
National Government	Rural Electrification Board	Unknown at this stage	3,000,000
Local Government	Dhaka City Corporation	In-kind	500,000
GEF Agency	UNIDO	Grant	110,000
Other Multilateral Agency (ies)	IFC	Soft Loan	890,000
(select)		(select)	
(select)		(select)	
(select)		(select)	
<b>Total Cofinancing</b>			<b>12,000,000</b>

<sup>5</sup> Same as footnote #3.

**D. GEF/LDCF/SCCF/NPIF RESOURCES REQUESTED BY AGENCY, FOCAL AREA AND COUNTRY<sup>1</sup>**

<b>GEF Agency</b>	<b>Type of Trust Fund</b>	<b>Focal Area</b>	<b>Country Name/Global</b>	<b>Grant Amount (a)</b>	<b>Agency Fee (b)<sup>2</sup></b>	<b>Total c=a+b</b>
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)(select)	(select)				0
(select)	(select)(select)	(select)				0
(select)	(select)(select)	(select)				0
(select)	(select)(select)	(select)				0
(select)	(select)(select)	(select)				0
(select)	(select)(select)	(select)				0
<b>Total Grant Resources</b>				0	0	0

<sup>1</sup> In case of a single focal area, single country, single GEF Agency project, and single trust fund project, no need to provide information for this table

<sup>2</sup> Please indicate fees related to this project.

## **PART II: PROJECT JUSTIFICATION**

### **A. DESCRIPTION OF THE CONSISTENCY OF THE PROJECT WITH:**

A.1.1 the [GEF focal area/LDCF/SCCF](#) strategies /[NPIF](#) Initiative:

1. The project is consistent with Chemicals Objective 1: Phase out POPs and reduce POPs releases, Outcome 1.4: POPs waste prevented, managed and disposed of and POPs contaminated sites managed in an environmentally sound manner. In addition, environmental friendly development is also set as one of the core targets in the sixth five year plan of the Government of Bangladesh. This project will contribute to the GEF-5 indicator 1.4.1: Amount of PCBs and PCB-related wastes disposed of, or decontaminated; measured in tons as recorded in the POPs tracking tool, and Indicator 1.3.1 Amount of un-intentionally produced POPs releases avoided or reduced from industrial and nonindustrial sectors; measured in grams TEQ against baseline as recorded through the POPs tracking tool.

A.1.2. For projects funded from LDCF/SCCF: the LDCF/SCCF eligibility criteria and priorities:

n/a

A.1.3 For projects funded from NPIF, relevant eligibility criteria and priorities of the Fund:

n/a

A.2. national strategies and plans or reports and assessments under relevant conventions, if applicable, i.e. NAPAS, NAPs, NBSAPs, national communications, TNAs, NIPs, PRSPs, NPFE, etc.:

2. The National Implementation Plan (NIP) for the Stockholm Convention has identified PCBs in transformer oil as one of the most critical issues in the country, while unintentionally produced dioxins and furans as priorities to be addressed in several different social and economic sectors. Medical waste was chosen due to a growing number of hospitals in the country which are creating rapidly increasing social needs to properly address medical waste in an environmentally sound manner.

### **B. PROJECT OVERVIEW:**

B.1. Describe the baseline project and the problem that it seeks to address:

3. A preliminary inventory of PCBs and unintentionally produced POPs (uP-POPs) was established as part of the NIP project, which was supported by UNDP and the Ministry of Environment and Forests (MoEF) with GEF as financing agency. The Department of Environment (DoE) of MoEF was the implementing agency of NIP project. The inventory listed a total amount of 51.65 MT of PCB contaminated oil, an estimation of 45% of total PCDD/PCDF emissions occurring from waste streams, and an estimation of 22.5 MT of PCBs to be contained in ships recycled each year within the ship-breaking industry. However, during the visit to the transformer maintenance facilities by the UNIDO and DoE delegates, it was witnessed that old transformer oil has been chemically regenerated by recently established private sectors offering such regeneration services without analyzing PCB contents in the treated oil. Therefore, the project needs to start by capturing the PCB existing in the country using PCB test kits, which were not engaged in preliminary inventory for the NIP. In April 2011, a worst case of PCB's cross-contamination was estimated as more than 200 tons of transformer oil that could show positive results with PCB test kits (there was an unconfirmed data of the PCB detection ratio by PCB test kits with the ratio, 1 out of 8). With the same estimated numbers applied, the number of possibly PCB contaminated transformers maintained by the two major electricity distribution power sectors in the country, Power Development Board and Rural Electrification Board, could be around 15 tons per year.
4. The power sector reform has been carried out by World Bank has separated power generation and distribution. They will act as subsidiaries of the Power Development Board holding company. Currently, there are no institutional and legislative policies specific to POPs, or to environmentally sound management of hazardous chemicals and wastes. The main legal base for environmental issues is given in the National Environmental Policy adopted in 1992. The main thrust of the policy is sustainability, including provisions for pollution prevention and corrective measures, and the enablement of framing new laws in all sectors necessary to control activities concerning environmental degradation (MoEF, 2005).
5. The National Implementation Plan (NIP) of Bangladesh identifies the leading sources of PCDD/PCDF releases to include, among others: disposal/landfill (116.17 g TEQ/a), uncontrolled combustion processes (71.67 g TEQ/a) and waste incineration (31.13 g TEQ/a). These sources contribute 23.91%, 14.75% and 6.4% respectively, or combined 45.06%, to the total releases of dioxins and furans through various media (air, water, as product and as

residue). Addressing these three sources would have a significant impact on the reduction of unintentionally-produced POPs in the country. Medical waste management is one area which touches on these three sources and is accorded a high priority by the government considering the rate of increase in waste-generating establishments. Due to poor coordination among govt. bodies and Healthcare establishments (HCEs), weak enforcement of the healthcare waste management rules of 2008, and consequential deficit in segregation and disposal practices, the probability of mixing with ordinary domestic waste is high, and worsens the problems associated with uncontrollable combustion and leaching at landfill sites.

6. Medical waste (MW) is mainly incinerated in highly dense areas like the capital city of Dhaka, and will remain an option for disposal due to the limited landfill capacity. Although medical waste is only a small fraction (1%) of the total solid waste generated in Bangladesh (2002, World Bank), improper handling and disposal can contaminate a vast area around the medical waste treatment facility, posing a grave threat to health and the environment. Based on interviews conducted by UNIDO mission team with officers of the Directorate General of Health Services (DGHS) of the Ministry of Health and Family Welfare (MoHFW) and other stakeholders in MW management, the current system is divided into 'in-house management' and 'outside management'. In-house management occurs within the premises of HCEs and is concerned with ensuring the safety of healthcare service personnel who have direct contact with the wastes and promoting proper segregation of wastes particularly the ones considered hazardous/infectious. While the MoHFW has introduced some guidelines on the proper in-house management of wastes, implementation is still a challenge to most HCEs. MoHFW will develop an In-House Waste Management Plan for the period 2012-2017. The outside management is generally supervised by the Ministry of Local Government, Rural Development and Cooperatives (LGRD&C), but the actual collection/transport is carried out by an NGO, PRISM on behalf of the Dhaka City Corporation under MoLGRD&C. The harmful components of MW are channeled to incineration facilities (such as the one in Matuail operated by PRISM) and the rest is treated as ordinary solid waste.
7. The medical waste management facility in Matuail, Dhaka, which was visited by the UNIDO team, was established through the assistance of various development organizations (e.g. CIDA, JICA, DFID and ADB), and is operated by an NGO. The facility accepts about five tons of waste daily from 342 (mostly large hospitals), out of 1,200 HCEs in Dhaka and is regarded as one of the most efficiently operating MW management sites though much improvement can still be done to attain higher standards of safety and environmental compliance. It has two incinerators, an autoclave, disinfection baths and concrete-lined burial pits for sharps. The declared burning capacities of the incinerators are 60 Kg/h and 135Kg/h, under temperatures of 800-850°C (first chamber) and 1050 - 1150°C (second chamber). Release of dioxins/furans is not monitored, as there is no available testing facility to carry this out. However, in 2011, the NGO has treated 1,812 tons of medical waste of which 705 tons were burnt. With the emission factor of "Controlled, batch type combustion, no or minimal APCS" adopted, this is equivalent to  $(3000 \text{ micro-g/t} \times 705 =) 2.1 \text{ g}$  to the air. The more precise estimation will be done during the PPG phase. This project will demonstrate the BAT/BEP measure to reduce dioxins from medical waste incineration. To reduce the waste amount for incineration, the autoclave with a 1500 L capacity is used to disinfect primarily infected wastes with high plastic and moisture content. The initial capital for the facility was provided through grant assistance from the agencies identified above so the treatment fees charged to generators is currently only enough to cover for operational costs. The non-profit medical waste operator, in partnership with the DCC, plans to expand its treatment capacity and improve its collection efficiency to cater to the growing need for MW management in Dhaka City alone, which at present is already at a generation rate of 15 tons from the 1,200 HCEs. However, due to the existing business model where there is hardly any profit margin; PRISM is trying to find financing for their expansion plans. Based on their calculation, a loan interest rate of 5-6% would be lucrative enough but the current interest rate from commercial banks stands at 15-20%. There are other existing and upcoming medical waste disposal facility operators in Dhaka and other parts of the country, such as the International Centre for Diarrhoeal Disease and Research in Bangladesh (ICDDR, B), SAPNO, PRODIPAN and Innovation Waste Mgt. Ltd., which are also in need of guidance and technical assistance on environmentally-sound management of medical waste. They are currently using incineration and concrete pit burial methods of disposal (without disinfection) and some are planning to use autoclaves in the future. PRISM is planning to coordinate a Medical Waste Management Operators' Forum to serve as platform for information exchange on best practices and to provide assistance to other players in the sector in complying with national and international standards of performance.
8. ADB is implementing a project with MoLGRD&C called Urban Public and Environmental Health Sector Development, which will have a component to build integrated waste management facilities (IWMFs) in 6 districts of the country including Dhaka City. The IWMFs will feature sanitary landfills, except in Dhaka, and will accept both ordinary solid waste and medical waste. In a discussion with the Project Director, they expressed interest to see the BAT/BEP to be demonstrated in UNIDO's proposed project for possible adoption in their new

sites, and to collaborate on the capacity-building of waste disposal service providers.

9. UNIDO also has another project proposal to promote Solar Micro-Utility Enterprises (SMUEs) for providing energy services on decentralized basis as micro-grids for productive uses and social / health services in rural areas under a sustainable business model mechanism. As both projects have HCEs as the target beneficiaries, awareness raising and communications could be done in a collaborative way.

B. 2. incremental /Additional cost reasoning: describe the incremental (GEF Trust Fund/NPIF) or additional (LDCF/SCCF) activities requested for GEF/LDCF/SCCF/NPIF financing and the associated global environmental benefits (GEF Trust Fund/NPIF) or associated adaptation benefits (LDCF/SCCF) to be delivered by the project:

10. **ESM of PCBs**: The co-financing of power sectors will be directed to the enhancement of transformer maintenance facilities which have greater room for improvement in terms of workers' safety and health. GEF resources will finance addition of PCB inventories to existing transformer inventories, the establishment of PCB legal framework, strengthening of institutional and technical capacities for PCB management, and installation of PCB treatment process. PCBs have remained in the transformers' oil most likely with increasing inputs from the regenerated old oil. The used oil had been stored and not used until emerging small private sectors started offering regeneration service of such oil. Existing transformer maintenance facilities in the country have good basic technical capacities for maintenance including recoiling damaged transformer coils. However, there is no awareness or practice set in place for PCB management, and the oil regeneration is done using the same oil filters without checking PCB concentrations in oil. The incremental activities include setting up a PCB screening step as a part of the transformer maintenance process and the subsequent separate process line for possibly PCB contaminated equipments and oil. The identified possibly PCB contaminated oil will be stored in tanks until final disposal mechanisms are set up. Treating at least 500 tons of possibly PCB-contaminated equipment, oil and waste is the goal of this project for demonstration of ESM of PCBs. With the PCB-equipment properly treated, possible emissions of PCBs contained in the equipment to the environment will be avoided. UNIDO has extensively supported the establishment of ESM of PCBs by mainly engaging non-combustion technology. The technological option meeting BAT/BEP requirements as well as this country's needs and capacities will be selected based on the PCB inventory and stakeholders' commitment that will be further identified during the project preparation phase. The sustainability of the capacities built by the project is secured by the two power sectors which will incorporate the ESM of PCBs as part of their transformer maintenance practices.
11. **ESM of Medical Waste**: This component will focus on the introduction of BAT/BEP to an existing medical waste facility in Bangladesh by seeking IFC-supported public private partnership (PPP) arrangements with an incentive of relatively modest GEF resources offered for reducing Dioxins and Furans from the medical waste treatment and disposal processes. The reduction of Dioxins and Furans will be achieved by a combination of measures such as encouraging waste segregation and reduction at source, disinfection (through autoclaves) and shredding prior to recycling or land disposal, and improving incineration practices through optimized combustion conditions and installation of end-of-pipe technologies.
12. Private sectors' investment facilitated by IFC will establish the medical waste management facilities. The GEF resource will be made available for upgrading the medical waste treatment facilities to meet best available technique and best environmental practice (BAT/BEP) standards. BAT can be adopted for selected incinerators to reduce the level of dioxins, furans and possibly other pollutants released into the environment. Another area where BAT can be introduced is on the alternatives to incineration or non-burn technologies for waste disinfection, prior to land disposal. The next track that should be considered is on the improvement of segregation and disposal through the adoption of best environmental practices (BEP). These practices are expected to avoid further contamination of the waste stream and reduce the volume of waste to be treated. The PPP mode of service delivery in MWM will be explored considering the government has already released a policy on PPP, signifying its readiness to embark on such model. This mode will hopefully attract greater private sector participation in MWM, with cost of treatment properly accounted to incentivize minimization on the generators' side. This mode is also expected to increase capacity to establish environmental safeguards (with costs also factored into the operations) such as the adoption of BAT and BEP, including monitoring of releases of unintentionally produced POPs. With this GEF incentive that could leverage a PPP-funded BAT medical waste treatment process installed and operated at one project site, possible emission of dioxins and furans would be prevented. The amount that could be avoided by this project will be estimated during the project preparation phase based on the co-financing contributions and potential PPP partners to be identified. The model of PPP engaged in this project will be further discussed during the project phase and the implementation phase as part of terms of reference drafting efforts for bidding. The operations of the model ESM of MW facility to be established, will serve as benchmark for other

existing and future MWM facility operators.

13. The project will also assist in enhancing the regulatory framework for managing healthcare waste from the point of generation to final disposal. This will be done through a regular platform for policy dialogue, the production of guidelines for facility operators, and building capacity for enforcement of rules and monitoring compliance, which includes upgrading the capability of private/public laboratories for analyzing air emissions. The capacities and best practice introduced by the project will be sustained by the medical waste treatment operators which collects medical waste treatment fees from health care sectors.

14. This GEF project proposal will be an integrated project, covering (i) identification, updating of PCB inventory, storage, final disposal and treatment of PCB containing equipment and waste, if technically and administratively possible also accepting PCB waste from non-power sectors such as ship-breaking industry and (ii) promotion of public-private partnership to enhance the operation of an existing medical waste facility in Dhaka while applying Best Available Technique to reduce Dioxin and Furan emission from incineration. The institutional capacities for POPs management of the government will be further strengthened as an outcome of this project.

B.3. Describe the socioeconomic benefits to be delivered by the Project at the national and local levels, including consideration of gender dimensions, and how these will support the achievement of global environment benefits (GEF Trust Fund/NPIF) or adaptation benefits (LDCF/SCCF). As a background information, read [Mainstreaming Gender at the GEF.](#):

15. The socio-economic benefits of this project include improved transformer maintenance facilities' working environment and therefore reduced occupational exposure to PCBs, governmental and industrial awareness and demonstrated solutions that can be disseminated to other regions of the country and different sectors, and better in-house and outside hospital management of medical waste that could lead to further reduction of avoidable infection from indiscriminate disposal of medical waste as well as dioxins and furans and other air pollutants that could be reduced with BAT installed.

16. Neither female workers nor managers were present when the UNIDO's delegate visited the two transformer maintenance facilities. However, it was reported there are some female electrical engineers in the visited power operators. They could be engaged as the main target beneficiaries of the project. At the medical waste management facility run by the medical waste operator NGO, female workers were observed to be working at the chemical disinfection area and informally employed at the landfill site next to the medical waste facility. The NGO which run one of the best managed medical waste management facilities has made every effort to ensure better working environment and safeguards for the workers such as medical treatment service arrangement with a hospital in the neighborhood in case of emergency. Nevertheless, the working conditions of female workers who are engaged in the disinfection process of plastic medical waste could be further improved by installing vector control equipment and arranging vaccination for diseases possibly caused by needles that could be present in poorly segregated plastic medical waste containers. Provision of such equipments and improved working conditions will be set as criteria in seeking private sectors for this partnership.

17. The global benefit of this project is to have 500 tons of possibly PCB contaminated equipments, oil, and waste in the PCB component, while the medical waste component is to reduce dioxin and furan emissions that could be increased due to the continued operation of medical waste incinerators lacking BAT/BEP considerations.

B.4 Indicate risks, including climate change risks that might prevent the project objectives from being achieved, and if possible, propose measures that address these risks to be further developed during the project design:

Outcome	Risk	Rating	Mitigation measures
Improvement of capacity of power sectors and transformer maintenance companies for ESM of PCBs	Power sectors which will be involved in the ESM of PCB might not have enough institutional and technical capacities to operate the PCB decontamination process.	Low	Technical assessment will be carried out before the selection of the technology. In drafting the Terms of Reference for the technology selection, it will put a great emphasis on the technical transfer part of the contract.



Strengthening of policy and regulatory framework to meet mandates of the Stockholm Convention for phasing out of (all possible) PCBs-contaminated equipment and disposed of the phase out equipment and incorporation of legislation for final disposal of PCBs	Private sectors in the area of transformer oil regeneration might not proactively play a key role to adopt ESM of PCBs in their industrial process, and therefore regenerated oil might continue to be contaminated by PCBs.	Moderate	While PCB legislations mandating the adoption of ESM of PCBs in transformer maintenance and oil regeneration industrial sectors will be drafted and submitted for approval by the law-making governmental body, such private sectors will be invited as part of the supply chain management of the power sector players from the design phase of the project. As part of this effort, the UNIDO delegate has already visited a small company contracted by REB to regenerate old oil recovered from REB's stockpile.
Encouragement of PPP mode of service delivery for implementation and demonstration of pilot BAT/BEP	Public private partnership might face some financial, technical, and administrative issues that could hamper the sustainable operation of the medical waste facility established.	Low	The public private partnership policy of the Government of Bangladesh will be followed to meet the national criteria in promoting such partnerships. A power plant in Bangladesh is currently built through the same partnership, and the lessons learned from the power plant project will be incorporated into the project document and implementation practices.
Climate Change Risk	The introduction of ESM of PCBs may cause some delays of transformer maintenance and hamper proper power transmission	Low	The power sectors will develop a business plan to gradually introduce the ESM of PCBs in their transformer maintenance facilities and therefore will avoid delays of transformer maintenance activities.

B.5. Identify key stakeholders involved in the project including the private sector, civil society organizations, local and indigenous communities, and their respective roles, as applicable:

Key stakeholders	Respective roles
National Government: Ministry of Environment and Forests (Department of Environment as a focal point of the project), Ministry of Health and Family Welfare (Directorate General of Health Services), Ministry of Local Government, Rural Development and Cooperatives (City Corporations)	Monitors Project Execution at national level, Implements/enforces rules/guidelines relevant to ESM of PCB and MW, Director General of DoE acts as the National Focal Point for Stockholm Convention and coordinator of inter-ministerial oversight for the National Implementation Plan (NIP)
Governmental Organization: Power Development Board	Play a leading role to ensure the environmental sound management of PCBs in its central transformer maintenance facility where transformer oil is physically regenerated using centrifuges.
Governmental Organization: Rural Electrification Board	Disseminate the knowledge on the environmentally sound management of PCBs through its 70 power supply cooperatives under its management throughout the country.
Private Sectors: Transformer Oil Refinery Companies	Act as one of the main beneficiaries of the project by receiving trainings of PCB analysis in their transformer oil refinery processes.
Private and Publicly-owned Healthcare Establishments (HCEs)	Medical waste generators and responsible for ensuring safe transport and disposal under producer-responsibility principle, Responsible for safety of employed medical staff and service

	providers exposed to MW
NGO: PRISM Bangladesh	Provide know-how regarding medical waste treatment and disposal, Improve efficiency and environmental performance of existing facility
Other medical waste facility operators and service providers (e.g. Innovation Waste Mgt. Ltd., SAPNO, PRODIPAN, City/Municipal Corporations)	Participate in the project by implementing PPP mode of service delivery on either BOO (Build, Own, and Operate) or BOOT (Build, Own, Operate, and Transfer) basis
CSOs such as ICCDR, B	Increase awareness of the public stakeholders and promote sound management of biologically active wastes as society's change agent as well as waste generators

#### B.6. Outline the coordination with other related initiatives:

18. World Bank and Asian Development Bank (ADB), which are active in enhancing power supply capacities and expanding power grids of the country, while International Finance Cooperation (IFC) has been active in promoting public private partnership in various areas of social infrastructures. As the medical component of this project promotes PPP, IFC has been contacted as a potential partner of this project.
19. The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) is carrying out a project addressing environmentally sound management of industrial sludge waste produced by garment and textile industrial sectors. Transformer oil regeneration also produces industrial sludge waste on which the Department of Environment does not have proper final disposal guidelines. Both sludge wastes could contain certain levels of POPs such as Dioxins and PCBs. In developing a project document, an overlapping area that could be jointly implemented will be identified for efficient and effective use of GEF resources.
20. WHO has been actively supporting the formulation of guidelines for in-house waste management consistent with WHO standards and also providing training programs for HCEs on ensuring the safe handling of waste. Collaboration with WHO on this project will be possible in terms of raising general awareness and institutional capacity building.
21. The ADB-funded project with the MoLGRD&C, which is partly addressing medical waste, includes building and operating integrated waste management facilities (IWMF) in 6 districts of the country including Dhaka City. These IWMFs will also include sanitary landfills except in Dhaka where there is space constraint. With this development, UNIDO's proposed project will no longer attempt to establish new facilities but could instead focus on optimizing the performance of one or two existing medical waste facilities to cater to un-met demand, while reducing the emission of PCDD/PCDF through BAT/BEP. This should demonstrate environmentally-sound management of Medical Waste for possible replication in the ADB project, where applicable. Possible collaboration could be on capacity-building of medical waste facility operators and further support to the development of the sector.
22. UNIDO also has a renewable energy project in Bangladesh, which will start implementation soon installing photo voltaic powered lights at medical health clinics in rural areas of the country. This project could also seek synergized impacts by addressing medical waste issues at those medical health clinics.
23. UNIDO is also currently developing a regional project proposal on ship-breaking sectors including Bangladesh as a participating country. The final disposal of PCBs from ship-breaking industry could be arranged in this project.

#### C. DESCRIBE THE GEF AGENCY'S COMPARATIVE ADVANTAGE TO IMPLEMENT THIS PROJECT:

24. UNIDO is within the comparative advantage matrix set out in GEF/C.31/5 rev.1. UNIDO has been very active in implementing GEF projects under its POPs focal areas. In particular, UNIDO has accumulated extensive experiences in environmentally sound management of PCBs in the Asian region including India and Nepal. UNIDO has also successfully implemented medical waste, a GEF's project in China by introducing non-combustion technologies to reduce the emission of dioxins and furans.

##### C.1 Indicate the co-financing amount the GEF agency is bringing to the project:

25. The total amount of USD 110,000 (including USD 10,000 in the Preparation Phase) will be offered as cash contribution of UNIDO for this project. The UNIDO's co-financing contribution will be mainly for the medical waste component of this project, particularly for providing the technical assistance in choosing the BAT/BEP options for the PPP operation.

C.2 How does the project fit into the GEF agency's program (reflected in documents such as UNDAF, CAS, etc.) and staff capacity in the country to follow up project implementation:



26. UNIDO currently supports capacity building and technical transfer in the area of (i)Energy & Environment, (ii)Trade, and (iii)Poverty Reduction, and the implementation of this project fits the institutional mandates. The UNIDO office in Bangladesh supported by its regional office located in India will provide administrative support for the project, once it's approved. There are other UNIDO's technical assistance and industrial development projects ongoing in the textile fishery, leather and kenaf sectors, and the experiences and networks developed by the previous projects will be engaged wherever appropriate.

**PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)**

**A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S):** (Please attach the [Operational Focal Point endorsement letter\(s\)](#) with this template. For SGP, use this [OFP endorsement letter](#)).

NAME	POSITION	MINISTRY	DATE (MM/dd/yyyy)
Mesbah ul Alam	Secretary	MINISTRY OF ENVIRONMENT AND FORESTRY	

**B. GEF AGENCY(IES) CERTIFICATION**

This request has been prepared in accordance with GEF/LDCF/SCCF/NPIF policies and procedures and meets the GEF/LDCF/SCCF/NPIF criteria for project identification and preparation.					
Agency Coordinator, Agency name	Signature	DATE (MM/dd/yyyy)	Project Contact Person	Telephone	Email Address
Mr. Dmitri Piskounov Managing Director PTC UNIDO GEF Focal Point		March 14, 2012	Mr. Fukuya Iino 	+43-1 26026 5218	F.Iino@unido.org