



**UNIDO/GEF**

**PCB-FREE ELECTRICITY DISTRIBUTION IN GEORGIA**

**ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK**

**June, 2017**

## TABLE OF CONTENT

<b>PREFACE .....</b>	<b>3</b>
<b>1. PROJECT DESCRIPTION .....</b>	<b>3</b>
1.1. Proposed Objective and Impact Indicators.....	4
1.2. Project Design .....	5
1.3 Total Project Cost.....	6
<b>2. POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK .....</b>	<b>6</b>
2.1 Georgian Legislation Applicable to the Project .....	6
2.2 UNIDO Environmental and Social Safeguards Policies and Procedures .....	9
2.3 Administrative Framework .....	12
<b>3. ENVIRONMENTAL AND SOCIAL RISKS AND MITIGATION MEASURES .....</b>	<b>14</b>
4.1 Environmental Risks.....	14
4.2 Social Impacts .....	16
4.3 Environmental and Social Management Plan.....	17
<b>5. ENVIRONMENTAL AND SOCIAL SUSTAINABILITY MONITORING .....</b>	<b>28</b>
<b>6. CAPACITY DEVELOPMENT.....</b>	<b>32</b>
<b>7. COMMUNICATION PLAN .....</b>	<b>32</b>

## LIST OF TABLE

<b>Table 1.</b> Screening of applicable operational safeguards to the sub-projects.....	10
<b>Table 2.</b> Monitoring Plan .....	29
<b>Table 3.</b> Stakeholder Engagement Plan.....	35

## **PREFACE**

The present Environmental and Social Management Framework (ESMF) is prepared for the purposes of implementing the UNIDO/GEF-supported project ``PCB-free electricity distribution in Georgia``. The ESMF identifies a range of required environmental and social management measures that need to be taken during the planning and implementation of the project, in order to ensure compliance with the national legislation, UNIDO and GEF safeguard policies.

This ESMF provides general policies, guidelines, codes of practice and procedures to be integrated into the implementation of the project. More specifically, the ESMF serves as a guidance instrument to ensure that environmental and social impacts are identified and assessed, and that appropriate mitigation, management, and monitoring measures are incorporated and applied in implementation to achieve the desired environmental and social sustainability outcomes. It sets out the institutional and organizational arrangements, procedures, and implementation arrangements for identification, management and monitoring of environmental and social impacts and mitigating measures. It addresses mechanisms for public consultation, participation, and disclosure of project documents as well as for redress of possible grievances and management of project-related issues, which may arise during implementation.

## **1. PROJECT DESCRIPTION**

Georgia signed Stockholm convention on May 23, 2003 and it was ratified by the Georgian Parliament in April 2006. The aim of Stockholm convention is to take measures for reducing or eliminating POPs, including PCB, releases from intentional and unintentional production and use, also the releases from existing stockpiles and wastes.

Polychlorinated biphenyls known as PCBs are mostly used as coolants and insulating fluids for transformers and capacitors. However, PCBs are chemical substances that persist in the environment, bio-accumulates through the food web and poses a risk of causing adverse effects to the human health and environment. Due to their environmental toxicity and their classification as a persistent organic pollutant (POP), the PCBs production and uses were restricted and eliminated in many countries. Polychlorinated biphenyls (PCBs) are among the first 12 substances classified as POP and listed in the Stockholm convention under annex A (elimination).

In Georgia the PCB baseline has been compiled at state, municipal and private sectors, from sectors such as energy, metallurgy, chemistry and petro chemistry, transport, agriculture and food, timber processing sectors. The inventory was carried out both in regional big capacity sub-station transformers (35, 110, 220, 500 kV) and distribution network small capacity transformers (6 and 10 kV). The PCB baseline study reveals that in Georgia the contamination of dielectric oil in transformer is very widespread (around 20% of the transformers are PCB contaminated).

With the significant amount of PCBs identified, the Government of Georgia requested, through UNIDO, financial assistance from the Global Environment Facility, to overcome a number of barriers preventing a safe management of PCB in Georgia, such as:

- Lack of a sound regulatory framework for the management of PCB.
- Lack of awareness concerning the issue of PCB in dielectric oil. Testing for PCB is not carried out in the electric generation or distribution companies in Georgia.

- Financial constraints. Due to the costs potentially associated to the treatment and/or disposal of PCB contaminated transformers, and in the absence of the enforcement of legislation on PCBs, the budget allocated by the electric power sector to the PCB issue is minimal.
- Technical barriers. The above barriers had as a consequence that the technical knowledge concerning the identification, management, treatment and disposal of PCBs contaminated equipment and oil is absent. The absence of technical knowledge on the PCB issue has in turn consequences on the financial aspect of the PCB management, as there is limited capacity to identify the most cost effective solution for the treatment of PCB contaminated equipment.

UNIDO’s PCB management and disposal projects aim to create fundamental capacities within governments, institutions and PCB owners for complying with the PCB-related obligations under the Stockholm Convention on POPs. The projects enhance the critical regulatory and legislative infrastructures and strengthen institutions at national, regional and local level to manage PCB-containing equipment and wastes in an environmentally sound manner. Environmentally sound PCB management practices are put in place at PCB-owners reducing PCB releases and risks to human and environmental health. Raising targeted public awareness and dissemination of information is a major component of all UNIDO PCBs projects. To date, UNIDO has assisted more than 20 countries to establish a sound PCB management.

### 1.1. Proposed Objective and Impact Indicators

The project objective is Ensuring sound PCB management in Georgian electricity distribution network.

**Impact indicators include:**

Key Impact Indicator	Baseline	Target (at Year 5)
Set of guidelines and regulatory instruments on the management of PCBs are prepared and adopted	General hazardous waste regulation that by default includes PCBs	One set of guidelines and regulations on management of PCBs adopted and being utilized
PCB Treatment equipment installed, commissioned, permitted and operational for the disposal of PCB containing equipment and wastes	0	1
Number of transformers being sampled and tested for PCB contamination. and registered in a PCB database	Unknown (less than 200)	More than 1000

Amount of PCB-containing equipment and waste treated in PCB treatment facility	0	Up to 1000 metric tons of cross contaminated PCB oil; up to 300 tons of pure or highly contaminated PCB oil and equipment.
--	---	--

## 1.2. Project Design

The project comprises of four components:

### Component 1. Legal, institutional and capacity strengthening

This component envisages development of PCB specific amendments in existing waste legislation and development of technical guidelines covering all stages of PCB life-cycle. Training of PCB holders and state inspectors will be supported by this component as well. Assistance will be provided to ensure that clear roles, reporting obligations, inspection schedule for each governmental body are properly identified and carried out. Procedures for the inspection of transformers, either online, stored pending maintenance or offline, will be demonstrated in at least 10 sites. The government will be provided with equipment for sampling and testing which will make it self-sufficient in undertaking inspections. In addition to that, the development of the PCB database, including the positioning of the PCB containing transformers, made available on the web through specific and password-protected access policies, will facilitate the prioritization of the inspections. A number of measures will be studied to promote the implementation of the PCB regulation even from the side of the PCB owners, such as identification of financial incentives to promote the replacement of PCB contaminated transformers and facilitation of the recycling of scrapping material (copper, lead, aluminum, steel) through the definition of proper standards and regulation. Targeted awareness raising initiatives will be implemented as well.

### Component 2. Management and disposal of equipment containing high concentration PCB oils

This component will support further identification of pure or high concentration PCB equipment through inspection in the Georgia electric power substation, as wells as transportation and disposal of 300 tons of PCB and associated equipment. The following strategy will be adopted:

- Pure PCB transformers and capacitors would be shipped abroad for disposal;
- Highly contaminated oil will be drained out and also shipped abroad for disposal;
- The carcasses of PCB highly contaminated PCB transformers will be decontaminated in Georgia with co-financing support under the technical assistance of the project, also in order to allow for the recycling of copper and steel which could bring a significant saving to the disposal activities.

All the activities will be carried out in compliance with the Basel Convention on the control of transboundary movements of hazardous waste and their disposal.

### **Component 3. Technology transfer for long lasting PCB management capacity in the electricity distribution sector**

This component will support detailed inventory of the PCB containing transformers in all industrial sectors. Procedures aimed at preventing the release of contaminated oil in the environment and the cross contamination of transformers during maintenance will be established. The of specific safety procedures to be adopted for PCB contaminated equipment in case of accident will be identified. A technology for the treatment of PCB oil and transformer will be identified and procured. Training on the use of the technology will be provided. Around 1000 tons of PCB oil will be treated by means of the technology procured. It is expected that the technology would be operated by a Georgian operating entity which will be in charge of the following:

- Transportation of PCB contaminated electric equipment and oil and of decontaminated electric equipment and oil from-to the facility; trucks for the transportation shall be provided by the operating entity;
- Transportation of the PCB destruction equipment to the transformer site, when needed and only if the equipment provided is a mobile equipment;
- Safe storage of PCB contaminated equipment and oil pending treatment;
- Draining of PCB contaminated dielectric oil from transformers;
- Conduction of PCB destruction activity using the PCB destruction equipment;
- Regeneration of decontaminated oil to be used for retro filling transformers;
- Carrying out transformer refilling with PCB free regenerated oil

### **Component 4. Monitoring and Evaluation**

This component includes assessment of the impact of project activities including lessons learned.

#### **1.3 Total Project Cost**

The Government of Georgia has requested the financing of \$3 910 000 from the GEF for implementing of the project. The total Project in-kind co-financing is \$17 620 000 that comes from the Ministry of Environment and Natural Resources Protection of Georgia, Ministry of Energy of Georgia, Georgian State Electro System and private electricity distribution companies.

## **2. POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK**

### **2.1 Georgian Legislation Applicable to the Project**

**The National Action Plan on POPs** was adopted by the Resolution of Government of Georgia #907, adopted on April 21, 2011, based on the Georgia National Implementation Plan of the Stockholm Convention. The National Implementation Plan (NIP) is a strategic document set for the period of 2011-2015, aiming at an efficient and sustainable management of POPs in Georgia, so that to ensure protection of human health and the environment

According to this plan 3 priorities have been identified:

- **Priority No 1** – management of stockpile of obsolete pesticides,
- **Priority No 2** – management of equipment and wastes containing Polychlorinated biphenyls (PCBs).
- **Priority No 3** – reduction of U-POPs releases, with particular reference to emissions of PCDD/F.

The POPs management plan has been developed based on the identified priority areas, in consultation with the stakeholders. The plan contains the short- and medium-term activities. It sets goals, objectives, activities, expected results, responsible parties, timeframes, approximate costs and potential funding sources.

The environmental regulation in Georgia which includes sections/chapters, or which is related to the management of POPs and PCBs is listed below:

- Law of Georgia on Environment Protection (1996);
- Waste Management Code (2015);
- Law on Waste Import, Export and Transit (1995, amended 2016);
- Law on Licenses and Permits (2005);
- Law on Environmental Impact Permit (2007);
- Technical Regulation on Labeling and Marking of Hazardous Chemicals (Adopted by GoG Decree #428, December 31, 2013);
- Technical Regulation on Special Requirements of Hazardous waste collection and Processing (Adopted by GoG Decree #145, March 29, 2016);
- Rules and Conditions for Registration of Collection, Transportation, Pre-treatment and Temporary storage of Waste (Adopted by GoG decree #144, March 29, 2016);
- Decree of GoG #426, dated August 17, 2015 “On Determining the List and Classification of Waste by Type and Characteristics”;
- Decree of Government of Georgia #422, dated August 11, 2015, “On form and Content of Waste Records to be Kept and Reports to be made”.

**Law on Environment Protection** (1996, last amended in 2016) establishes basic principles of environment protection and sustainable use of national resources. The law addresses broad spectrum of issues, like environmental governance, environmental monitoring and access to the information, licensing, standards, EIA and permitting, waste management, education and scientific research in the scope of environment. It considers different aspects on protection of ecosystems and biodiversity, protected areas, protection of ozone layer, protection of Black Sea and international cooperation aspects. The law establishes principles on waste minimization, waste recycling and restitution of degraded landscapes. The law sets out the basic requirements for waste management. In particular:

- Developer shall prevent generation of waste and is responsible for waste collection, recovery and disposal in accordance with environmental, sanitary and epidemiological norms and rules.

- Disposal of waste is allowed only in designated areas in accordance with the environmental, sanitary and epidemiological norms and rules.
- Radioactive and other hazardous wastes shall be disposed only in especially designated areas.
- Disposal of waste in water bodies or in the sea is prohibited.

**Waste Management Code** stipulates the "Polluter pays" principle and introduces the extended producer responsibility. The Law also introduces the obligation for legal or natural entities producing more than 200 tonnes of non-hazardous waste, 1000 tonnes of inert waste, or any amount of hazardous waste annually to prepare a detailed waste management plan. In accordance to this law the series of by-laws on waste classification, registration, collection, transportation, pre-treatment and temporary storage of hazardous waste have been adopted.

According to the **Waste Management Code** and **Law on Environmental Impact Permit**, the following activities are subject of ecological expertise and environmental impact permitting:

- Waste recovery, except non-hazardous waste pre-treatment;
- Waste disposal, except non-hazardous waste pre-treatment;
- Pre-processing of hazardous waste;
- More than 10 tons of hazardous waste temporary storage facility arrangement.

According to the Waste Management Code hazardous waste shall be transported only by waste transporter who are duly registered according to the requirements of the Code and ``Rules and Terms on Registration of Waste collection, transportation, pre-processing and temporary storage`` (adopted by the GoG decree #144, March 29, 2016).

According to the **Law on Waste Import, Export and Transit** (1995, amended 2016) export of hazardous waste is prohibited if state of import is not party of Basel Convention or import of hazardous waste is prohibited in this state. Import of non hazardous waste for recovery, as well as export and transit of non hazardous waste and export of hazardous waste is allowed by the law. Export of hazardous waste shall be agreed with state of import. Special permit shall be issued by the MoENRP for waste import, export and transit.

**Decree of the Government of Georgia N145 on Approval of Technical Regulations for Special Requirements of Hazardous Waste Collection and Processing** determine special requirements of hazardous waste collection and processing, as well as mechanisms of traceability mechanisms of hazardous up to the point of final deposition, requirements of individual waste stream management in regard to packaging, labeling and temporarily storing of hazardous material, like POPs, asbestos, and residual oil. Aside from general requirements in individual waste streams, there are also some specific requirements.

According to the waste inventory, a producer of hazardous waste is obliged to prepare *hazardous waste information sheet* as soon as waste is classified as hazardous. The information sheet should comprise information about waste generation, classification and hazard characteristics, safety measures in case of accident and first aid procedures.

Packaging of waste should ensure minimization of the impact on human health and environment. The package of the waste must be resistant to its content. The responsibility on selecting appropriate packaging is the owner's responsibility.

The Decree also implies requirements for temporary storage of hazardous waste. Facilities, where waste is stored in large quantity (more than 10 tons), required environment impact permission; facilities storing small quantities (2-10 tons) need only registration.

Facilities of temporary storage should be located on a place not exposed to natural disasters (floods, landslides).

### **Technical regulation on dielectric oil, PCBs, and electrical equipment**

In Georgia there are a number of technical regulations which are impacted by the Stockholm Convention requirements on PCBs, or which should be considered in the implementation of the project with specific reference to activities like the regeneration of dielectric oil after PCB decontamination, or the replacement of PCB containing transformers:

- Georgian governmental resolution N 434 "Technical regulation – on approving the rules for technical operation of electric stations and networks"
- Standard- ГOCT 12869-77 Electrical insulating synthetic fluid octol. Specifications
- Standard - ГOCT 5775-68. Condenser Oil. Specification
- Standard - ГOCT 10121-76. Transformer oil of selective purification. Specifications
- Standard - ГOCT 13076-67. Synthetic oil ВНИИ НП 50-1-4ф. Specifications.
- Standard - ГOCT 1282–79. Capacitors for power factor correction of electrical equipment with alternating current of 50 and 60 Hz
- Standard - ГOCT 21791-76. Oils synthetic MAC-30HK. Technical requirements
- Standard - ГOCT 16555-75. Three-phase oil-filled hermetic power transformers. Specifications
- Standard - ГOCT 14209-69. Oil-immersed power transformers. Specifications.
- Standard - ГOCT 10577-63. Petroleum products. Method for the determination of mechanical impurities.
- Manual for electrical equipment testing volumes and norms

In general, none of these norms or standards contains specific indication on the allowed PCB content in the dielectric oil, or on the procedure required to manage equipment with PCB content higher than those required by the Stockholm Convention.

## **2.2 UNIDO Environmental and Social Safeguards Policies and Procedures**

UNIDO has adopted a set of Environmental and Social Safeguard Policies and Procedures (ESSPP) that will be applicable to all UNIDO projects starting 2016. The ESSPP aims to provide the project development team with a set of tools and guidance to be able to strategically design and implement environmentally and socially sustainable projects that support the achievement, equitability and sustainability of development results.

The ESSPP has nine Operational Safeguards requirements (OSs), seven programmatic and two framework safeguards that the project development team is expected to follow when addressing social and environmental impacts and risks. The table below shows the OSs of the UNIDO ESSPP. From these, applicable safeguard standards for the project components were identified.

**Table 1.** Screening of applicable operational safeguards to the sub-projects

<b>Operational Safeguard</b>	<b>Objectives</b>	<b>Applicable to the Project</b>
<b>Programmatic Operational Safeguards</b>		
<b>OS1. Environmental and Social Assessment</b>	This safeguard governs the process of determining the project’s environmental and social category and the resulting environmental and social assessment requirements by screening the project, assigning an appropriate category, undertaking public scoping with key stakeholders and determining the need for any environmental and social impact assessment (ESIA) or environmental and social management plan (ESMPs)	<b>Yes</b>
<b>OS2. Protection of Natural Habitats</b>	The objective of this safeguard is to conserve biological diversity and promote the sustainable use of natural resources. UNIDO does not engage in any projects that deal with critical habitats	<b>No</b>
<b>OS3. Involuntary Resettlement</b>	The objective of this safeguard is to ensure that projects that could result in involuntary resettlement are either redesigned or are not approved for further development by UNIDO	<b>No</b>
<b>OS4. Indigenous People</b>	This safeguard ensures that projects foster full respect for indigenous people and their dignity, human rights and cultural uniqueness	<b>No</b>
<b>OS5. Pest Management</b>	The objective of this safeguard is to ensure that the environmental and health risks associated with pesticide use are minimized and managed, and that safe, effective, and environmentally sound pest management is promoted and supported	<b>No</b>
<b>OS6. Physical Cultural Resources</b>	This safeguard commits UNIDO to banning projects that adversely impact any critical physical or cultural heritage.	<b>No</b>
<b>OS7. Safety of Dams</b>	This OS applies to all UNIDO projects that involve the construction, operation, and maintenance of	<b>No</b>

	new dams or the rehabilitation of existing dams. Also, this safeguard ensures that UNIDO does not engage to any large-scale water management infrastructure investment projects.	
<b>Framework Operational Safeguards</b>		
<b>OS8. Information Disclosure</b>	This OS recognizes the importance of open and transparent engagement between UNIDO, the project development team, local communities directly affected by the project and other stakeholders. This ensures that any information concerning UNIDO projects is available to the public, in the absence of a compelling reason for confidentiality.	<b>Yes</b>
<b>OS9. Accountability and Grievance Systems</b>	This safeguard ensures that UNIDO has a mechanism for dispute resolution and for ensuring accountability and compliance with its environmental and social safeguards.	<b>Yes</b>

### **Environmental and Social Assessment (OS1)**

This overarching safeguard governs the process of determining a project’s environmental and social category and the resulting environmental and social assessment requirements by screening the project, assigning an appropriate category, undertaking public consultation with key stakeholders, and determining the need for any environmental and social impact assessment (ESIA) or environmental and social management plans (ESMPs). This OS applies to all UNIDO projects.

#### **Screening/categorization**

The ESSPP screens and categorizes projects based on environmental and social criteria to: (i) reflect the level of potential environmental and social impacts and issues associated with the project, and (ii) determine the nature and level of environmental and social investigations, information disclosure and stakeholder engagement required for each project, commensurate with the nature, location, sensitivity and scale of the project, and the nature and significance of its potential environmental and social impacts. Screening can also enhance the sustainability of a proposed project, by focusing on potential environmental and social benefits.

The outcome of the screening process will be a categorization of the project into one of the following categories:

**Category A:** A proposed project is classified as Category A if it is likely to induce significant and/or irreversible adverse environmental and/or social impacts that are sensitive, diverse, or unprecedented, or that affect an area broader than the sites or facilities subject to physical works, i.e. the geographical scope of the project. Category A projects will require an ESIA to be conducted, which should examine the project's potential negative and positive environmental impacts, compare them with those of feasible alternatives (including the “*without project*” situation), and

recommend any measures needed to prevent, minimize, mitigate, or compensate for adverse impacts. As a result of the ESIA process, a Management Plan (MP) will be developed.

**Category B:** Category B projects often differ from Category A projects of the same type only in scale. They are likely to have less adverse impacts on human populations or environmentally important areas than those of Category A projects. Likely impacts will be few in number, site-specific, and few, if any, will be irreversible. In most cases impacts can be readily minimized by applying appropriate management and mitigation measures or incorporating internationally recognized design criteria and standards. An ESIA will not be required, but an ESMP needs to be developed so as to integrate environmental and social sustainability elements into project design.

**Category C:** A project is classified as Category C either if it is likely to have minimal or no adverse social and/or environmental impacts, or because sufficient environmental and social review has already been conducted and environmental and social management recommendations have been incorporated into the project; for example, in cases where national systems for environmental and social safeguards have been applied. Beyond screening, no further specific environmental and/or social assessment is required for a Category C project. However, it is important to note that such projects, particularly those with procurement components, may still have potential environmental and social sustainability considerations. These should be addressed as part of the regular project design activities and through UNIDO's procurement processes, as applicable.

**Category NO PROJECT:** A project is classified as Category NO PROJECT if it (i) is likely to infringe on the protection of critical habitats or physical cultural resources, (ii) uses banned pesticides and/or chemicals, or (iii) causes involuntary resettlement.

Based from the ESS Guidance Categorization of the DGAI No.23, the project was determined to fall under Category B, so ESMP needs to be developed so as to integrate environmental and social sustainability elements into project design.

**Information Disclosure (OS8)** - This OS recognizes the importance of open and transparent engagement between UNIDO, the project development team, local communities directly affected by the project and other stakeholders. This ensures that any information concerning UNIDO projects is available to the public, in the absence of a compelling reason for confidentiality.

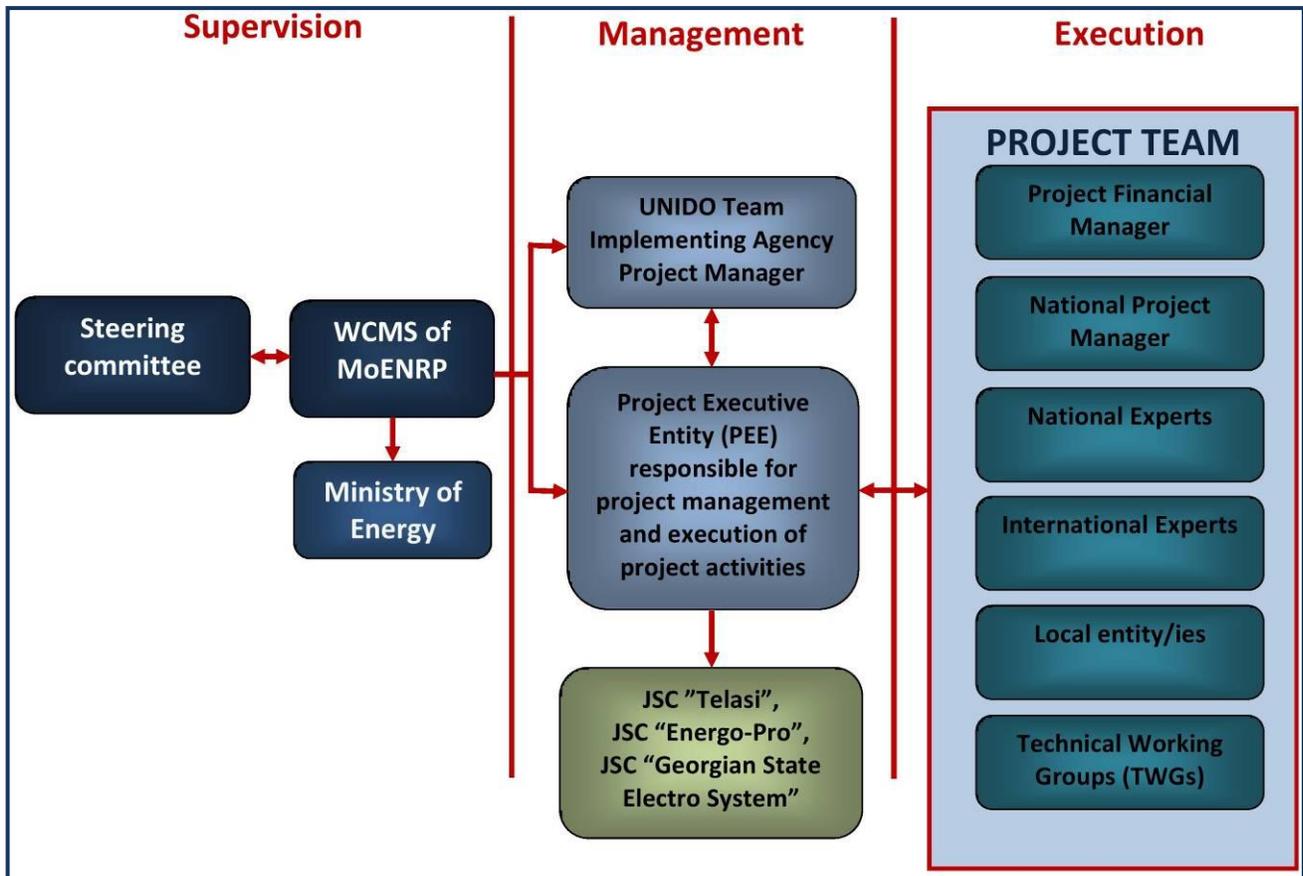
**Accountability and Grievance Systems (OS9)** - This safeguard ensures that UNIDO has a mechanism for dispute resolution and for ensuring accountability and compliance with its environmental and social safeguards.

## 2.3 Administrative Framework

The institutional arrangement for project implementation is provided in Figure 3.1 below. UNIDO is the GEF Implementing Agency (IA) for the project. A project officer will be appointed in UNIDO HQ to oversee the implementation of the project, assisted by a support staff.

The Ministry of Environmental Protection and Natural Resource (MEPNR) of Georgia, and in particular it's Waste and Chemical Management Service (WCMS) will be the lead executing agency for the project.

The project implementation partners will initially include, but not be limited to, JSC "Telasi", JSC "Energo-Pro" and JSC "Georgian State Electro System" for the project implementation period.



**Figure 1.** Project implementation structure

A National Project Director (NPD) will be appointed from WCMS of the MEPNR and would chair the Project Steering Committee.

Project Executing Entity (PEE) will be selected on a competitive basis through the UNIDO standard assessment/selection procedures. The entity's function will be to manage and execute the day-to-day as well as technical tasks required by the project, including its adherence to the present ESMF and will be in charge of the administrative functions required.

To provide efficient implementation of the project PEE will recruit national experts based on specific required tasks, in coordination with UNIDO. PEE will be responsible in drafting the reportorial requirements of the project including progress reports, annual work plans, GEF project implementation report (PIRs) and country reporting requirements based on the prescribed formats. The NPD is responsible in informing UNIDO of any delays or difficulties during the implementation so that appropriate support or corrective measures can be adopted in a timely and remedial fashion. PEE will be responsible for:

- Implementation of present ESMF;
- Environmental monitoring of project implementation (including field monitoring), documenting outcomes of monitoring and creating photo documentation;
- Reporting on environmental performance of the project.

A Project Steering Committee (PSC) will be established, chaired by the NPD from WCMS of the MEPNR and will comprise of representatives from relevant line ministries, UNIDO and other relevant stakeholders. The PSC will hold its regular sessions at least once a year throughout the project implementation, but additional meetings can be held if necessary.

Technical Working Groups (TWGs) will be established depending on the requirements of the project. The TORs of TWG will be formulated and agreed during the project inception phase as necessary. The PSC and TWG should make necessary decisions within the rules and regulations of UNIDO and the GEF as per GEF C.39/inf3.

**Ministry of Labour, health and Social and Social affairs of Georgia** will be a member of the PSC with the key role to provide indication on the risk management measures and PPE adopted by the operators involved in PCB management.

**Ministry of Energy** is a key partner of the project. It will take part in the development of regulation concerning PCB in dielectric oil and electric equipment, and will be the member of the PSC.

**Private Companies** – include, but not limited to, JSC “Georgian State Electrosystem” (GSE), JSC “Telasi”, JSC “Energo Pro”, JSC “Kakheti Energy Distribution” - as owner of a large number of transformer, some of which PCB contaminated, are key beneficiaries of the project and a co-financing partner. They will also provide technical assistance in all the operation related to the handling of transformers, including sampling, draining, retro-filling, packaging and transportation, and will participate in training activities with their technical competence on the management of electric assets. Obviously, these companies have also a key role in the project’s awareness raising activities.

### **3. ENVIRONMENTAL AND SOCIAL RISKS AND MITIGATION MEASURES**

The possible environmental and social impacts that may be encountered during the project implementation are discussed in this section. Respective Environmental and Social Management Plan (ESMP) is elaborated that address revealed environmental and social risks and identifies mitigation measures.

#### **4.1 Environmental Risks**

Implementation of project is expected to have positive long term improvements in the environment. They are expected from the strengthening of legal and institutional framework for safe PCB management and improvement of capacity for PCB management. Technology transfer will also promote improvement of PCB management capacity in the electricity distribution sector. Environmental performance of the sector will be increased. Soil, water and air pollution that may result from the mismanagement and improper disposal of the PCB containing oil could be reduced significantly in Georgia as a result of project implementation.

Potential environmental risks are related to the activities planned under the components 2 and 3. In particular, environmental risks are related to the following activities:

##### **Project component 2:**

- Shipment of pure PCB transformers and capacitors and highly contaminated oil abroad for disposal;

- Decontamination of the carcasses of highly contaminated PCB transformers.

### **Project component 3:**

- Inventory survey of transformers for the content of PCB in their dielectric oil (possible risks are related to sampling activities);
- Treatment of around 1000 tons of PCB by mobile PCB de-contamination technology, which includes:
  - Transportation of PCB contaminated electric equipment and oil and of decontaminated electric equipment and oil from-to the facility;
  - Transportation of the PCB destruction equipment to the transformer site, when needed;
  - Safe storage of PCB contaminated equipment and oil pending treatment;
  - Draining of PCB contaminated dielectric oil from transformers;
  - Conduction of PCB destruction activity using the PCB destruction equipment;
  - Regeneration of decontaminated oil to be used for retro filling transformers;
  - Carrying out transformer refilling with PCB free regenerated oil.

Pure PCB transformers and capacitors, as well as highly contaminated oil and carcasses of highly contaminated PCB transformers shall be considered as **hazardous waste**, which shall be transported, stored and treated according to the legislation requirements described above and the relevant guidelines developed under the project.

All the activities related to the **transboundary transportation** and disposal of the PCB transformers and oil shall be carried out in compliance with the Basel Convention on the control of transboundary movements of hazardous waste and their disposal, the regulation of the country crossed during transportation, the Basel convention's "*Updated technical guidelines for the environmentally sound management of wastes consisting of, containing or contaminated with polychlorinated biphenyls (PCBs), polychlorinated terphenyls (PCTs) or polybrominated biphenyls (PBBs)*".

**Transportation** is one of the most important areas of concern associated with the handling of hazardous waste. Considering the toxic, flammable, explosive or corrosive characteristics of hazardous waste, its transport has to be planned in such a way that this waste does not cause danger to health or environment, when handled individually or when in contact with other wastes or substances during transportation. Main risks are related to the vehicle breakdown and accidents while transportation activities as well. To minimize the risk of accident maximum speed shall be restricted in residential areas to the safety level during the pass of the trucks, also proper technical control and maintenance practices of the machinery shall be applied to ensure that machinery is in good technical condition. Transportation activities shall be limited to daylight working hours and proper mufflers shall be used on vehicles.

Pure PCB transformers and capacitors, as well as highly contaminated oil and carcasses of highly contaminated PCB transformers shall be transported only by waste transporter who are duly registered according to the requirements of the "Waste Management Code" of Georgia and "Rules

an Terms on Registration of Waste collection, transportation, pre-processing and temporary storage` (adopted by the GoG decree #144, March 29, 2016).

Transportation of the Pure PCB transformers and capacitors, as well as highly contaminated oil and carcasses of highly contaminated PCB transformers must be carried out in accordance of the requirements of `Technical regulation on Hazardous waste collection and processing` (adopted by GoG decree #145, March 29, 2016 *in harmony with EU regulations*).

**Decontamination** of the carcasses of highly contaminated PCB transformers shall be carried out only by the entity with proper permit issued according to the law on “Environmental Impact Permit” and “Waste Management Code” of Georgia. Carcasses awaiting treatment shall be safely storage according to the “Technical regulation on Hazardous waste collection and processing”. Waste generated due to the processing of the carcasses shall be finally disposed on licensed hazardous waste landfill (*note: Waste Management Code and subsequent waste related legislation is in harmony with EU regulations/requirements*).

Environmental impact permit is not required for inventory survey of transformers for the content of PCB in their dielectric oil. Necessity of the obtaining environmental impact permit for processing of PCB containing oils by mobile PCB de-contamination technology shall be discussed and agreed with the Ministry of Environment and Natural Resources Protection before commencement of the related services.

The negative environmental effects that have been identified are:

- Emissions to the air from transformers resulting from an incident leading to a leak during transfer of the transformers and highly contaminated oil to the disposal site (in case of pure or highly contaminated PCB transformers) or to and from treatment sites (in case of low contaminated PCB transformers);
- Spills on the soil or in the water bodies resulting from an incident during the transfer of the transformers or during PCB oil treatment.

## 4.2 Social Impacts

The project is expected to have tangible long-term positive impact on the social environment. The project does not imply land acquisition and no permanent impacts are envisaged on private or leased agricultural lands and private assets or businesses. Consequently, involuntary resettlement is not expected due to the project implementations. Direct effects on sites with archeological, historical or cultural value are not likely to occur also. Instead, the project is envisioned to have more benefits most especially to the civil servants, representatives of private sector and workers that will be directly involved in the project components. Worker’s health and occupational environment will be improved.

Negative social impacts are expected to be minimal and limited.

There are two receptor groups that may be affected as a result of the project implementation: (1) the workers involved and (2) the neighborhood around the areas. These people are exposed to physical, chemical or biological hazards of the wastes.

Exposure can be direct (skin contact, inhalation, ingestion) or indirect (intake of polluted water or contaminated food, inhalation of contaminated air).

Reduction of potential adverse environmental and social impacts during the project implementations will be possible through protecting the following key conditions: proper management activities related to the PCB oil and equipment transportation and disposal and treatment of PCB contained oil, constant monitoring, ensuring the technical functionality of equipment used during transportation, decontamination of the carcasses and treatment of the oil. Labor shall be properly informed about potential health and safety risks, instructed regarding safety measures to be adhered and ensuring that personal protection equipment is supplied and used by workers as appropriate.

If necessary, the population around the project area should be properly explained.

The project will have positive impact on electricity transmission/distribution sector. The management of PCB contained oil is challenge for the sector. Supported by the GEF funding, the project will provide services for replacement of obsolete or contaminated transformers, treatment of contaminated oil.

### **4.3 Environmental and Social Management Plan**

Proper mitigation measures are developed to address the impacts that were identified. The objective is to minimize or reduce the effect of the identified impacts. The summary of the identified impacts as well as corresponding mitigation measures are presented in the table below. However, site specific Environmental and Social Management Plans (ESMP) shall be elaborated for PCB oil disposal facilities, and all other environmental documents, including ESMP needs for PCB mobile treatment technology shall be discussed, at the implementation stage, with the Ministry of Environment Protection and Natural Resources of Georgia.

	E&S risks	Mitigating Measures	Technical details of the mitigation technology, process, equipment, design and operating procedures	Location	Timeline, including frequency, start and end date	Responsibility	Cost of Mitigation (If Substantial; to be covered by the GEF grant or non-UNIDO co-financing)
<p><b>Risks identified during the PIF preparation and verified during the project preparation(PPG)</b></p>	<p>Pollution of environment and personal exposure due to accidental release of PCB contained oil while <b>Inventory</b> of the PCB containing transformers (sampling activities)</p>	<p>Spill Containment System shall be provided to prevent leakage in the environment;</p> <p>Ensure that all spills are cleaned up immediately, and contaminated soil is respectively disposed off;</p> <p>Temporarily storage of all hazardous or toxic substances shall be in safe containers labeled with details of composition, properties and handling information;</p> <p>The containers of hazardous substances shall be placed in an leak-proof container to prevent spillage and leaching;</p> <p>Emergency and Preparedness &amp; Response Plan / Contingency Program shall be developed including treatment and transportation activities;</p> <p>Informing of the labor about potential health and safety risks, and instructing them regarding safety measures to be adhered; Ensuring that required personal protection equipment (protective clothing and gas masks) is supplied and used as appropriate.</p>		<p>Inventory sites Georgia</p>	<p>During inventory activities</p>	<p>Project Executing Entity (PEE)</p>	<p>100.000 USD Shared by GEF grant and non-UNIDO co-financing</p>

	E&S risks	Mitigating Measures	Technical details of the mitigation technology, process, equipment, design and operating procedures	Location	Timeline, including frequency, start and end date	Responsibility	Cost of Mitigation (If Substantial; to be covered by the GEF grant or non-UNIDO co-financing)
	Deterioration of ambient air due to <b>transportation</b> activities	<p>All vehicles shall be maintained so that their emissions do not cause nuisance to workers or local people.</p> <p>All vehicles shall be checked and repaired in case of need to eliminate increased level of emissions due to damaged parts.</p>		Transportation routes Georgia	During transportation activities	<p>Subcontracting entity providing transportation of pure PCB transformers and highly contaminated oil; carcasses of highly contaminated PCB transformers and PCB contaminated electric equipment PEE supervision</p> <p>Subcontracting entity providing operating mobile PCB de-contamination equipment. PEE supervision.</p>	10.000 USD Shared by GEF grant and non-UNIDO co-financing
	Propagation of noise and vibration due to transportation activities	<p>The maximum speed shall be restricted in residential areas to the safety level during the pass of the trucks;</p> <p>Proper technical control and maintenance practices of the machinery shall be applied to ensure that machinery is in good technical condition.</p> <p>Activities shall be limited to daylight working hours;</p>		Transportation routes Georgia	During transportation activities	Subcontracting entity providing transportation of pure PCB transformers and highly contaminated oil; carcasses of highly contaminated PCB transformers and PCB contaminated electric equipment	5.000 USD Shared by GEF grant and non-UNIDO co-financing

	E&S risks	Mitigating Measures	Technical details of the mitigation technology, process, equipment, design and operating procedures	Location	Timeline, including frequency, start and end date	Responsibility	Cost of Mitigation (If Substantial; to be covered by the GEF grant or non-UNIDO co-financing)
		Proper mufflers shall be used on machinery.				PEE supervision  Subcontracting entity providing operating mobile PCB de-contamination equipment. PEE supervision.	
	Pollution of environment by hazardous substances (accidental release of PCB contained oil) due to transportation activities	PCB contaminated electric equipment and oil shall be packed and labeled properly during transportation;  Vehicles must be equipped with spill clean-up kit;  Emergency and Preparedness & Response Plan / Contingency Program shall be developed including treatment and transportation activities.		Transportation routes Georgia	During transportation activities	Subcontracting entity providing transportation of pure PCB transformers and highly contaminated oil; carcasses of highly contaminated PCB transformers and PCB contaminated electric equipment  PEE supervision  Subcontracting entity providing operating mobile PCB de-contamination equipment. PEE supervision.	20.000 USD Shared by GEF grant and non-UNIDO co-financing
	Impact on traffic flow while transportation	Impose speed limitation to the vehicles;		Transportation routes Georgia	During transportation activities	Subcontracting entity providing transportation of	

	E&S risks	Mitigating Measures	Technical details of the mitigation technology, process, equipment, design and operating procedures	Location	Timeline, including frequency, start and end date	Responsibility	Cost of Mitigation (If Substantial; to be covered by the GEF grant or non-UNIDO co-financing)
	activities due to transportation activities	Routes shall be pre-determined and densely populated areas avoided.				<p>pure PCB transformers and highly contaminated oil; carcasses of highly contaminated PCB transformers and PCB contaminated electric equipment PEE supervision</p> <p>Subcontracting entity providing operating mobile PCB de-contamination equipment. PEE supervision.</p>	
	Vehicle breakdown and accidents while transportation activities	<p>Proper and regular maintenance of vehicles;</p> <p>All drivers must be properly trained;</p> <p>Vehicles must have hazard warning panels.</p>		Transportation routs Georgia	During transportation activities	<p>Subcontracting entity providing transportation of pure PCB transformers and highly contaminated oil; carcasses of highly contaminated PCB transformers and PCB contaminated electric equipment PEE supervision</p> <p>Subcontracting</p>	15.000 USD Shared by GEF grant and non-UNIDO co-financing

	E&S risks	Mitigating Measures	Technical details of the mitigation technology, process, equipment, design and operating procedures	Location	Timeline, including frequency, start and end date	Responsibility	Cost of Mitigation (If Substantial; to be covered by the GEF grant or non-UNIDO co-financing)
						entity providing operating mobile PCB decontamination equipment. PEE supervision.	
	<p>Pollution of environment by hazardous substances and occupational health and safety risks (Exposure of workers) while <b>decontamination</b> of the carcasses of highly contaminated PCB transformers</p>	<p>The activity shall be carried out only by the operator with proper permit issued in accordance of Law on Environmental Impact Permit;</p> <p>Emergency and Preparedness &amp; Response Plan / Contingency Program shall be developed including treatment and transportation activities;</p> <p>Informing of the labor about potential health and safety risks, and instructing them regarding safety measures to be adhered;</p> <p>Ensuring that required personal protection equipment ( protective clothing and gas masks) shall be supplied and used by workers as appropriate;</p> <p>Provision of safety signs for high risk zones;</p> <p>Implementation of measures recommended for air protection and noise abatement;</p>		Decontamination sites Georgia	During decontamination works	<p>Subcontracting providing entity providing decontamination of carcasses of highly contaminated PCB transformers</p> <p>PEE Supervision</p>	20.000 USD Shared by GEF grant and non-UNIDO co-financing

	E&S risks	Mitigating Measures	Technical details of the mitigation technology, process, equipment, design and operating procedures	Location	Timeline, including frequency, start and end date	Responsibility	Cost of Mitigation (If Substantial; to be covered by the GEF grant or non-UNIDO co-financing)
		<p>PCB contaminated electric equipment pending decontamination shall be packed and labeled properly, placed on impermeable surface and covered;</p> <p>Security measures shall be taken against unauthorized removal from the site;</p> <p>All operations for decontamination of the carcasses shall be implemented in covered and well-ventilated building;</p> <p>Spill Containment System shall be provided to prevent leakage in the environment;</p> <p>Hazardous waste generated due to the decontamination activities shall be disposed on licensed landfills/locations</p>					
	<p><b>Risks related to treatment of PCB contaminated electric equipment and oil by mobile PCB decontamination technology</b></p>	<p>Agreement with the Ministry of Environment on need of elaboration of site specific ESMPs</p> <p>Appointing a person responsible for ESMP implementation as needed;</p> <p>Delivery of supplies required for implementation of planned mitigation measures;</p> <p>Training of workers regarding</p>		Georgia	Before starting of treatment activities	PEE	15.000 USD Shared by GEF grant and non-UNIDO co-financing

	E&S risks	Mitigating Measures	Technical details of the mitigation technology, process, equipment, design and operating procedures	Location	Timeline, including frequency, start and end date	Responsibility	Cost of Mitigation (If Substantial; to be covered by the GEF grant or non-UNIDO co-financing)
		social and environmental protection measures to be implemented.					
	Deterioration of ambient air while <b>treatment</b> of PCB contaminated electric equipment and oil by mobile PCB de-contamination technology	All plant used on site shall be regularly maintained so as to be in good working order at all times to minimize potentially polluting exhaust emissions The territory shall be reinstatement immediately after finalizing of works.		Treatment sites Georgia	During treatment works	Subcontracting entity responsible for mobile PCB de-contamination equipment	10.000 USD Shared by GEF grant and non-UNIDO co-financing
	Propagation of noise and vibration while <b>treatment</b> of PCB contaminated electric equipment and oil by mobile PCB de-contamination technology	Proper technical control and maintenance practices of the machinery shall be applied to ensure that machinery is in good technical condition.  Activities shall be limited to daylight working hours; Proper mufflers shall be used on machinery.		Treatment sites Georgia	During treatment works	Subcontracting entity responsible for mobile PCB de-contamination equipment	5.000 USD Shared by GEF grant and non-UNIDO co-financing
	Pollution of environment (water and soil) by hazardous substances (accidental	Ensure safe storage of PCB contaminated equipment and oil pending treatment on special designated areas;  Security measures will be taken against unauthorized removal		Treatment sites Georgia	During treatment works	Subcontracting entity responsible for mobile PCB de-contamination equipment	20.000 USD Shared by GEF grant and non-UNIDO co-financing

	E&S risks	Mitigating Measures	Technical details of the mitigation technology, process, equipment, design and operating procedures	Location	Timeline, including frequency, start and end date	Responsibility	Cost of Mitigation (If Substantial; to be covered by the GEF grant or non-UNIDO co-financing)
	<p>release of PCB contained oil or decontaminated oil – spill or leakage while temporary storage or while treatment operations such as drainage, destruction, regeneration and refilling)</p>	<p>from the site;</p> <p>Temporarily storage on site of all hazardous or toxic substances shall be in safe containers labeled with details of composition, properties and handling information;</p> <p>Drained PCB contaminated dielectric oil shall be stored in closed safe containers, which are protected from leakage and equipped with fire-fighting equipment, labelled with details of composition, properties and handling information;</p> <p>PCB contaminated dielectric oil shall not mixed with other oils;</p> <p>the containers of hazardous substances shall be placed in an leak-proof surface to prevent spillage and leaching;</p> <p>Spill Containment System shall be provided to prevent leakage in the environment;</p> <p>Ensure that all spills are cleaned up immediately, and contaminated soil is respectively disposed off.</p> <p>Containers and equipment shall be inspected regularly;</p> <p>Emergency and Preparedness</p>					

	E&S risks	Mitigating Measures	Technical details of the mitigation technology, process, equipment, design and operating procedures	Location	Timeline, including frequency, start and end date	Responsibility	Cost of Mitigation (If Substantial; to be covered by the GEF grant or non-UNIDO co-financing)
		&Response Plan / Contingency Program shall be developed including treatment and transportation activities.					
	Health and safety risks for local community (Indirect exposure of residents nearby)	PCB oil treatment site, as well as sites of carcasses decontamination shall be properly secured. This includes but is not limited to:  Installation of the signposting, warning signs, barriers, signs shall be clearly visible and the public warned of all potential hazards;  Conduct Information and Education activities to raise awareness		Treatment sites Georgia	During treatment works	PEE or its subcontracting entity	10.000 USD Shared by GEF grant and non-UNIDO co-financing
	Occupational health and safety risks (Exposure of workers)	Informing of the labor about potential health and safety risks, and instructing them regarding safety measures to be adhered  Ensuring that required personal protection equipment ( protective clothing and gas masks) is supplied and used by workers as appropriate  Provision of safety signs for high risk zones  Implementation of measures recommended for air protection and noise abatement.		Treatment sites Georgia	During treatment works	PEE or its subcontracting entity	10.000 USD Shared by GEF grant and non-UNIDO co-financing

	E&S risks	Mitigating Measures	Technical details of the mitigation technology, process, equipment, design and operating procedures	Location	Timeline, including frequency, start and end date	Responsibility	Cost of Mitigation (If Substantial; to be covered by the GEF grant or non-UNIDO co-financing)
<b>Additional risks identified during the project implementation</b>							

## 5. ENVIRONMENTAL AND SOCIAL SUSTAINABILITY MONITORING

Under Component 4 of this project, the implementation of the project will be monitored and evaluated. The sustainability of the project outputs will be ensured by:

- Strengthening implementation of policies, laws and regulations related to PCB management;
- Capacity building of PCB holders and state inspectors;
- Upgrading government capacity to enforce PCB regulations, including PCB information management;
- Targeted awareness raising activities.

Monitoring of project implementation progress will be the responsibility of the National Project Director (NPD) based on the project's Annual Work Plan (AWP) and its indicators. The NPD will coordinate the planning and monitoring activities with the National Project Manager. The MEPNR, via the NPD, will inform UNIDO of any delays or difficulties faced during implementation so that the appropriate support or corrective measures can be adopted in a timely and remedial fashion.

UNIDO through meetings (face-to-face or through teleconferencing) with project counterparts as frequent as deemed necessary but not less than twice per year will undertake periodic monitoring of the project implementation progress. This will allow parties to troubleshoot any problems pertaining to the project in a timely fashion to ensure the smooth implementation of project activities. Meetings with counterparts may coincide with the field visits to the project sites.

Annual Monitoring will occur through PSC meetings, which will take place at least once every year. The national project manager will prepare an Annual Project Report (APR) and submit it to UNIDO at least two weeks prior to the PSC for review and comments. As part of the GEF Monitoring requirement, the PEE will also prepare a Progress Implementation Report (PIR), as per prescribed format. Part of this PIR is the reporting/updating of the co-financing committed and the UNIDO Stockholm Convention Unit indicators.

Narrative reporting on the implementation of ESMP will be provided as part of the general progress reporting of project implementation part of the bi-annual progress reporting. PEE will also be expected to obtain and keep on file all permits, licenses, and agreement letters which are required have according to the Georgian legislation. PEE carries overall responsibility for monitoring of the implementation of the ESMP, including field monitoring. The PEE will be responsible to ensure that workers/personnel are well instructed on the compliance with these ESMPs and H&S issues.

Environmental and social sustainability monitoring of the project shall be implemented according with plan given below.

**Table 2.** Monitoring Plan

	<b>E&amp;S Risks</b>	<b>Parameter to be measured</b>	<b>Monitoring Methods</b>	<b>Timing / Frequency / of measurement</b>	<b>Detection Limit</b>	<b>Definition of thresholds</b>	<b>Sampling / monitoring Location</b>	<b>Responsibility</b>
<b>Risks identified during the PIF preparation and verified during the project preparation(PPG)</b>	Pollution of environment and personal exposure due to accidental release of PCB contained oil while inventory of the PCB containing transformers (sampling activities)	<p>Area in the immediate vicinity of the activity is not polluted</p> <p>Spill Containment System is in place</p> <p>Hazardous or toxic substances are storage safely</p> <p>All labors are informed about risks and instructed regarding safety measures</p> <p>PPE are provided and used</p>	Inspection	During sampling activities			Places of sampling activities and laboratories	PEE
	Deterioration of ambient air due to transportation activities	<p>Technical condition of vehicles and machinery</p> <p>Adherence to the established hours and routes of transportation</p>	<p>Inspection</p> <p>Verification of documents</p>	During transportation activities			The start and end points of transportation activities	PEE
	Propagation of noise and vibration due to transportation activities	<p>Adherence to the established speed limitation, hours and routes of transportation</p> <p>Technical condition of vehicles and machinery;</p>	Inspection	During transportation activities			Transportation routs	PEE

	Accidental release of PCB contained oil while transportation	Proper packaging of PCB contained oil before starting of transportation; Spill clean-up kits in place Drivers and accompanying persons are instructed properly Vehicles have hazard warning panels	Inspection	Before starting of transportation			The start and end points of transportation activities	PEE
	Pollution of environment and health and safety risks while decontamination of the carcasses of highly contaminated PCB transformers	Existence of permit; Labor are instructed properly; PPE is in place and used; Safety signs are in place; Carcasses pending decontamination are storage on especially allocated areas, on impermeable surface and covered; spill containment system is provided Timely disposal of generated waste to the formally designated locations	Inspection  Verification of documents	Periodically during decontamination activities			Sites of decontamination activities	PEE

	Risks related to treatment of PCB contaminated electric equipment and oil by mobile PCB de-contamination technology	<p>Site-specific ESMPs as needed</p> <p>Proper arrangements of treatment sites</p> <p>Timely disposal of generated waste to the formally designated locations</p> <p>Oil pending treatment is storage properly and labeled</p> <p>spill containment system is in place</p>	Inspection	In the course of PCB contaminated oil treatment activities			Sites of treatment of PCB electric equipment	PEE
	Workers' health and safety	<p>Provision of uniforms and safety gear to workers;</p> <p>Informing of workers and personnel on the personal safety rules and instructions and strict compliance with these rules/instructions</p>	Inspection	In the course of PCB contaminated oil treatment activities			Sites of carcasses decontamination and treatment of PCB electric equipment	PEE
<b>Additional risks identified during the project implementation</b>								

## 6. CAPACITY DEVELOPMENT

Project Executing Entity (PEE) will manage and execute the day-to-day as well as technical tasks required by the project, including its adherence to the present ESMF.

PEE will be responsible for:

- Implementation of present ESMF;
- Environmental monitoring of project implementation (including field monitoring), documenting outcomes of monitoring and creating photo documentation;
- Reporting on environmental performance of the project.

To provide efficient implementation of the project PEE will recruit national experts based on specific required tasks, in coordination with UNIDO.

**Private Companies** – include, but not limited to, JSC “Georgian State Electrosystem” (GSE), JSC “Telasi”, JSC “Energo Pro”, JSC “Kakheti Energy Distribution” - as owner of a large number of transformer, some of which PCB contaminated, are key beneficiaries of the project and a co-financing partner. They will also provide technical assistance in all the operation related to the handling of transformers, including sampling, draining, retro-filling, packaging and transportation, and will participate in training activities with their technical competence on the management of electric assets. Obviously, these companies have also a key role in the project’s awareness raising activities.

In terms of needs, like in other countries, there are a number of barriers preventing a safe management of PCB in Georgia:

- Lack of a sound regulatory framework for the management of PCB in Georgia.
- Lack of awareness concerning the issue of PCB in dielectric oil. Testing for PCB is not carried out in the electric generation or distribution companies in Georgia.
- Financial constraints. Due to the costs potentially associated to the treatment and/or disposal of PCB contaminated transformers, and in the absence of the enforcement of legislation on PCBs, the budget allocated by the electric power sector to the PCB issue is minimal.
- Technical barriers. The above barriers had as a consequence that the technical knowledge concerning the identification, management, treatment and disposal of PCBs contaminated equipment and oil is absent. The absence of technical knowledge on the PCB issue has in turn consequences on the financial aspect of the PCB management, as there is limited capacity to identify the most cost effective solution for the treatment of PCB contaminated equipment

The project will complement the existing capacity of the partner companies in term of transformer maintenance with the technology and technical capacity to destroy PCBs in the most

cost effective way. This will occur through the identification of the best technology based on the level of contamination of PCBs.

Moreover, project envisages the strengthening of the Georgian legislation and the capacity of the authority to enforce as well as an intensive awareness raising campaign, which includes:

- Training of PCB holders and state inspectors in implementing the guidance
- Upgrading government capacity to enforce PCB regulations, including PCB information management
- Undertake targeted awareness rising for high-risk population groups

## 7. COMMUNICATION PLAN

As part of the GEF Annual Monitoring Report (AMR), UNIDO will annually communicate implementation progress on issues that involve ongoing risk to or impacts on the project stakeholders, and on issues that the consultation process or grievance mechanism has identified as of concern to those stakeholders. The ESMP will be disclosed on the UNIDO public website, under the following link: <https://open.unido.org/index.html>

According to the ESSPP for *Category B Projects*:

- The draft ESMP shall be placed on the UNIDO website, 10 working days prior to consultation;
- The final ESMP shall be placed on the UNIDO website, 10 working days prior to commencement of UNIDO's project document clearance process by PTC/OMD.

In addition, a stakeholder engagement plan, which outlines the various consultation types, purposes, participation, reporting, and timing, is developed and included in the ESMP (see Table 3).

The project knowledge management system will be established. A platform containing all project generated reports – either technical or monitoring reports – will be built and will feed into larger networks of information sharing. Information sharing will utilize cloud-based platform with restricted access for project stakeholders to allow differentiated level of access.

The knowledge management platform to be created will also be used to disseminate project results. For this purpose, a project website will be built. The website will be hosted under the website of the MoENRP, to maximize the number of accesses. Even for the website, different level of access will be granted depending on the targeted stakeholders.

The KM platform will also be utilized to make UNIDO and GEF experience in the field of PCB management and disposal available to the interested operators and project partners. Periodic bulletins – basically simple summaries of the available literature– will be released on a regular basis to inform the stakeholders and project partners of the availability of these documents. Some of these will be also linked to the website, when relevant for general audience. The MoENRP, PEE and other relevant stakeholders will also be encouraged to participate in relevant webinars, trainings, etc. that will be provided by other entities.

The project will also endeavor to utilize available social media platforms like Facebook and Twitter to further disseminate relevant information on the project activities.

**Table 3. Stakeholder Engagement Plan**

Consultation	Purpose	Participants	Lead/Chair	Reporting	Schedule
Initial	<p>Project Start up:</p> <ul style="list-style-type: none"> <li>- Project Overview</li> <li>- Project Organization</li> <li>- Project Schedule</li> <li>- Social and Env. Impacts</li> <li>- ESMP</li> </ul>	<p>Ministry of Environment and Natural Resources Protection,</p> <p>Ministry of Labour, health and Social and Social affairs of Georgia</p> <p>Ministry of Energy</p> <p>Private Companies – include, but not limited to, JSC “Georgian State Electrosystem” (GSE), JSC “Telasi”, JSC “Energo Pro”, JSC “Kakheti Energy Distribution</p>	<p>NPD</p> <p>National project Manager</p>	<p>National project Manager</p>	<p>First month</p>
Public consultation & site visit	<ul style="list-style-type: none"> <li>- Adjusting of mitigation measures, if necessary</li> <li>- Impact of replacing and updating activities</li> <li>- Comments and suggestions</li> </ul>	<p>Relevant stakeholders</p>	<p>National project manager</p>	<p>National Project Manager</p>	<p>After selection of project activities sites</p>
Public consultation & site visit	<ul style="list-style-type: none"> <li>- Effectiveness of mitigation measures</li> <li>- Impacts of project implementation</li> <li>- Comments and suggestions</li> </ul>	<p>Relevant stakeholders</p>	<p>National project manager</p>	<p>National Project Manager</p>	<p>After starting of implementation of activities within project component 2 and 3</p>
Expert workshop or press conference	<ul style="list-style-type: none"> <li>- Comments and suggestions on impacts;</li> <li>- Public opinions</li> </ul>	<p>Relevant stakeholders</p>	<p>National project manager</p>	<p>National Project Manager</p>	<p>After starting implementation of activities</p>
Addressing Community Concerns	<p>Consultation on Grievance Procedure</p>	<p>PEE</p>	<p>National project manager</p>	<p>National Project Manager</p>	<p>Continuously</p>