Project title: Making Polychlorinated Biphenyls (PCBs) management and elimination sustainable in Morocco

Annex 1: Environmental and Social Management Plan (ESMP)

1. Project Description

Morocco ratified the Stockholm Convention on POPs in 2006 and prepared a National implementation plan (NIP) as per the Convention requirements. In order to implement the requirements of the Stockholm convention, the Morocco has developed and adopted a national plan of implementation (NIP) in March 2006. The actions planned in the NIP have been identified and classified taking into account the following criteria: requirements of the Stockholm Convention, benefits for public health and environment, technical and economic feasibility, and perception of the stakeholders and, in general, the public. The priority areas of intervention identified include the development of a strategy for disposal of PCB-containing equipment, environment-friendly destruction of PCB-contaminated oil, and the strengthening of technical capacities available in the country on management of POPs.

The objectives of the proposed project are the adoption of a legal framework conducive to the safe disposal of PCB-containing equipment, PCB wastes contained in electrical transformers and the contaminated oil, focusing on small PCB-containing equipment holders. Small-holders of PCB-containing equipment have not been taken into account in previous inventories nor disposal initiatives. Now, the country needs a catalyst to shift market intervention in terms of PCB management, focusing on small-scale PCB-containing equipment holders towards compliance with the legislative framework and the Stockholm Convention. This will be done through development and adoption of a law to be enforced through institutional and financial mechanisms, development of safe management plans in order to support compliance with the laws and efficient operation of the existent national PCB decontamination platform.

Location of activities related to the safe disposal of PCBs

The activities related to the safe disposal of PCB-containing equipment and PCB-contaminated oil will be through the existent platform developed within Pillar II of the Program for safe management of PCB in Morocco supported by previous UNIDO-GEF projects implemented in the country. This facility is located in the industrial area of Bouskoura in a closed hangar having an overall surface area of 1,255 m². The hangar is part of a lot of 6 sheds inside a fenced and secure parcel. The site address is: Local n°5, Route 109 Bouskoura Centre – Quartier Industriel de Bouskoura. The site Lambert coordinates are:

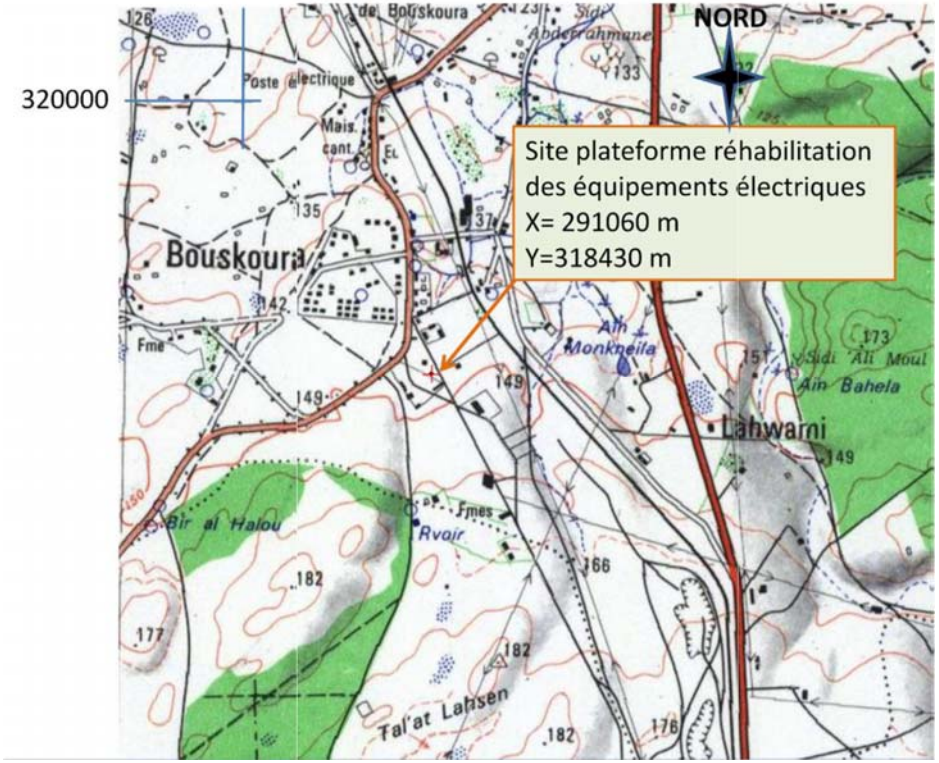
X = 291060 Y = 318430

These coordinates correspond to the following geographic coordinates (WGS 84):

- Longitude : 7° 38’ 47’’ Ouest
- Latitude : 33° 26’ 36’’ Nord
- Altitude : 149 m NGM

Figure 1 shows the facility site exact location in a topographic map « Barechid » at scale 1/50000ème.

Figure 1: Facility location



The main outcomes of the environmental and social risk screening

The environmental and social risk screening proposes to make use of the existent platform for decontamination and rehabilitation of PCB-containing equipment. The platform will have three main functions in the project execution.

1) The collection and packaging of PCB-contaminated equipment (pure or heavily contaminated (> 5,000 ppm) followed by expedition to the TREDI treatment center in France. The platform can dispose approximately 500 tons of PCB-containing equipment and waste the first year, and then about 100 tons annually.
2) Decontamination of mineral oil transformers containing PCBs for their possible rehabilitation and restoration, if they still have required dielectric properties; the decontamination of the transformers will be carried out by means of a closed loop using potash. The dechlorination technology is provided by TREDI, which is the world leader in the management of hazardous wastes, including PCBs. The decontamination capacity will be approximately 100 tons of oil per year. Waste from the decontamination process is sludge with no traces of PCBs, representing less than 1% of the mass of treated oil. They will be exported for disposal to TREDI France.
3) Dismantling, decontamination and mineral oil recovery of transformers contaminated with PCB (<5000ppm) which physical and electrical conditions does not support their re-use. The metal parts will be cleaned and recovered while the decontaminated oils will be either heat-recovered or reused in rehabilitated transformers.

The platform is classified, in accordance with the Morocco legislation, under the category dangerous, inconvenient or unhealthy establishments in class 2 (industrial designation 215b).

The platform is installed in the industrial zone of Bouskoura, which is an authorized site for class 2 and 3 activities. Bouskoura has also been chosen for its proximity to the main roads and to the port of Casablanca.

The different technologies will be decontaminated in the same infrastructure, the notion of "closed loop" will be adapted to the whole site operations. The experience of TREDI on similar interventions in Europe and in several other countries has been into contribution for the design of the platform and its operation. Thus, all the platform's systems including ventilation of the ambient environment, catchment and water networks, management of aqueous, gaseous and solid discharges, etc. have been designed so as to avoid rejections outside the site.

All incoming and outgoing flows will be confined within the site enclosure, leading to full potential emissions control. The platform is totally watertight and has a containment barrier to prevent any contamination of water and soil ecosystems. The air from the facility will be treated at the inlet (suction and filtering) and at the outlet (aspiration in the work stations) and with activated carbon. Contaminated waste and wash water will be sent abroad for disposal.

The risk of workers contamination is reduced through the systematic use of personal protective equipment (PPE), which is mandatory to all employees, and by air treatment to prevent contaminated dust from leaving the site.

2. Policy, legal, and administrative framework

National policies related to PCB-management

PCBs management have different requirements in the Morocco legislation depending on whether the equipment considered are in use or considered as wastes (disconnected or discarded transformers for example).

Regarding PCB-containing equipment still in use, the Government made the option to proceed with their regulation rather than prohibition, and to have an approach centered on awareness raising and persuasion of the holders in order to incentivize them having environmentally sound management practices of PCB-containing equipment including, the disposal of affected devices.

Indeed, in article 71 of the Morocco Constitution "real rights and real estate properties public, private and collective plans" are within the law purview. This means any form of prohibition on the use of property, movable and real estate, must be done through the enactment of a law. However, preparing a law for a single substance was found to be inappropriate, therefore it was decided to integrate the issue of PCBs in the bill under preparation on production, trade, use and management of chemicals.

Pending the enactment, and in order to make progress on the issue of PCB management before the 2025 deadline, the government considered four actions.

- Creation and institutionalization of a National Commission on PCBs with the mission to ensure the compliance with and implementation of the provisions of the Stockholm convention on persistent organic pollutants, and particularly those related to the PCBs;
- The adoption of Moroccan standards on the environmentally sound management of PCB based on European standards EN50195 and 50225;
- The provision of a grant for funding the disposal of PCBs through the Bouskoura national platform of treatment and rehabilitation of electrical equipment, with support of the UNIDO/GEF project "secure management of PCBs in Morocco'';
- Awareness and incentives actions for adoption of the environmentally sound management practices of PCBs, including in utilities. These actions are carried out through the website of the Ministry of the environment, the publication of guides intended to equipment holders and professionals of the sector, and the organization of workshops under the auspices of the national commission of the PCB.

With regard to PCB wastes, they are managed in accordance with the law 28-00 adopted in 2009 and are classified as hazardous waste by the Decree No. 2-07-253 on classification of waste and establishment of a list of hazardous waste. The provisions on management of Hazardous waste are by Decree No. 2-14-85 that specifies requirements on organizational management of hazardous waste, the procedures for granting authorization to the collection and transport of hazardous waste and the authorization of specialized facilities for treatment, valuation, or disposal of hazardous waste. The export of hazardous waste, including PCBs, is done in accordance with the provisions of the Basel convention on the control of transboundary movements of hazardous wastes and their disposal.

National Institutional Structure

The national commission of the PCB includes, under the chairman of the Government authority responsible for the environment;

- Representatives of each of the Government departments responsible for Industry, Finance, Water, Energy, Mining, Agriculture, Internal affairs, Equipment and Transportation, Health, Trade, National defense and one representative from the general secretariat of the Government
- One (1) representative from the National office in charge of drinking water, designated by the Government department responsible for water management;
- One (1) representative of the national electricity board, appointed by the Government authority in charge of Energy.
- Three (3) representatives from all of the autonomous departments in charge of water and electricity, appointed by the department in charge of Internal affairs;
- One (1) representative from every concessionaire of electricity distribution.

3. Environmental and social risks and mitigation measures

UNIDO intervention features the installation of dechlorination units which potential negative impacts on the environment have been anticipated and measures to prevent their occurrence already factored in the intervention. However, as this project is submitted as one-step MSP, it might be identified during inception phase additional impacts of the UNIDO interventions to local populations and/or to ecosystems. As of now, the following risks related to UNIDO intervention in the physical and social environment have been identified.

Table 1: Main environmental and social risks

	E&S risks	Mitigating Measure	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)
Risks identified during the project preparation	Delay in the enactment of legislation	Take advantage of the momentum created by the COP 22 to have the PCB Commission involve parliamentarians in passing the law and the regulations (decrees of application). This should be supported by a strong involvement of the key Ministries in the Commission on PCBs and through the activities to be carried out under Component 1, especially trainings and workshops		Rabat, Morocco	Annual (for PIRs)	PSC; UNIDO; PMU	Not applicable
	Contamination of air and soil near the decontamination facility	All the platform's facility's systems including ventilation of the ambient environment, catchment and water networks, management of aqueous, gaseous and solid discharges, etc. have been designed so as to avoid rejections outside the facility.	The facility is completely watertight and has a containment barrier to prevent any contamination of water or soil	Casablanca	Annual (for PIRs)	Facility manager; UNIDO; PMU	Not applicable
	Threat on health of the	systematic use of personal protective equipment (PPE),	Materials should be resistant and quality is	Casablanca	Annual (for PIRs)	Facility manager; UNIDO; PMU	Not applicable

	decontamination facility workers	which is mandatory to all employees, and air treatment to prevent contaminated dust from leaving the site	conform to approved standards				
	Financial contribution of the government and other co-financing are slow to be put in place causing delays in the implementation	The commitments of and agreements with some major stakeholders (ONEE, LYDEC, RADEEF, OCP, AMENDIS, REDAL…) will be materialized as soon as the project starts. They constitute the major part of the PCB contaminated equipment owners. This will incentivize other stakeholders to get engaged.		Regions where are located PCB-containing equipment owners	Annual (for PIRs)	UNIDO/PMU	Not applicable
	Change on the top management of the governmental bodies could result in delays in the implementation of the project	The Steering Committee (National Commission of PCBs) communication and networking will ensure the necessary support of the institutions concerned, regardless of persons with whom agreements have been included.		Rabat, Morocco	Annual (for PIRs)	PSC; UNIDO; PMU	Not applicable
	Local expertise too limited for an effective participation to the implementation of environmentally sound management of PCBs	Mobilization of the international and existent national expertise to assist the national project team in providing support to PCB-containing equipment owners. In addition, the		Regions where are located PCB-containing equipment owners	Annual (for PIRs)	UNIDO/PMU	Not applicable

		project will rely on the experience gained with the existent national PCB decontamination platform					
	Low level of private stakeholders commitment	Commitment of the private sector to the project activities will be ensured through the dissemination of the investment component achievements, the availability of environmental management plans, and the enforcement of law and regulations.		Regions where are located PCB-containing equipment owners	Annual (for PIRs)	UNIDO/PMU	Not applicable
Additional risks identified during the project implementation							

4. Environmental and social sustainability monitoring

In this section the monitoring program of the identified E&S risks, should be described. The monitoring program should clearly indicate the linkages between risks/impacts identified, measurement indicators, detection limits (where appropriate), and definition of thresholds that will signal the need for corrective actions.

Table 2: Monitoring of environmental and social risks

	E&S risks	Parameters to be measured	Monitoring methods and procedures used (e.g. sampling)	Timing/Frequency of measurement	Detection limit	Definition of thresholds	Sampling/monitoring location	Responsibility
Risks identified during the project preparation	Delay in the enactment of legislation	- Draft bill submitted to parliament; - # of sessions held for parliament discussions; - Final text of the bill approved	- Process participation - Observation of parliament sessions	Annual (for PIRs)	Administrative requirements for effectiveness of the parliament debate	Threshold to be defined during inception phase	Rabat, Morocco	PSC; UNIDO; PMU
	Contamination of air and soil near the decontamination facility	Soil and air quality measurement parameters	Sampling	Annual (for PIRs)	Level of pollutants in the air and in the soil	Threshold to be defined during inception phase	Casablanca	Facility manager; UNIDO; PMU
	Threat on health of the decontamination facility workers	- Level of exposure to contaminated equipment - # of workers contaminated	- Monitoring of working conditions on the facility site; - Medical reports	Annual (for PIRs)	Symptoms of contamination	Threshold to be defined during inception phase	Casablanca	Facility manager; UNIDO; PMU
	Financial contribution of the government and other co-financing are slow to be put in place causing delays in the implementation	- Co-financing amounts; - Rate of budget implementation	Accounting	Annual (for PIRs)	Supporting documents as evidence of contribution outflows	Threshold to be defined during inception phase	Regions where are located PCB-containing equipment owners	UNIDO/PMU

	Change on the top management of the governmental bodies could result in delays in the implementation of the project	- Project progress rate; - Rate of budget implementation	Monitoring of activities execution	Annual (for PIRs)	Extended administrative delays	Threshold to be defined during inception phase	Rabat, Morocco	PSC; UNIDO; PMU
	Local expertise too limited for an effective participation to the implementation of environmentally sound management of PCBs	- Project progress rate; - Rate of budget implementation	Monitoring of activities execution	Annual (for PIRs)	Extended delays on technology installation, operation and maintenance	Threshold to be defined during inception phase	Regions where are located PCB-containing equipment owners	UNIDO/PMU
	Low level of private stakeholders commitment	- Project progress rate; - Replication of achievements	Monitoring of activities execution	Annual (for PIRs)	Participation to project activities (i.e workshops) and number of achievements being replicated	Threshold to be defined during inception phase	Regions where are located PCB	UNIDO/PMU
Additional risks identified during the project implementation								

5. Capacity development

The development of plans addressing environmentally sound management of PCBs are available for large holders of electricity distribution companies, however, are not applicable for smallholders who would need additional technical and administrative guidance for safe PCB management. In addition, smallholders were not included in previous inventories nor in awareness raising campaigns. Because they hold a very large number of transformers which are generally poorly managed. Capacity strengthening targeting this category of owners is essential for supporting them to comply with the law once it is enacted and would thus provide a widespread national impact towards the 2028 target to safely dispose of PCBs in Morocco. The expected results of the capacity building component of this project is the acquisition of knowledge on environmentally safe management practices of PCB-containing transformer owners from the private sector.

The capacity development plan under the proposed project also features the development of publications on environmentally sound management plans, which are provide owners of PCB-containing equipment with technical capacities to deal with contaminated equipment in a safer manner, and then to comply with the bill under preparation. These plans should cover all stages of the PCB disposal cycle, including PCB-containing equipment identification, labeling, maintenance, preparation of safety measures and equipment in use, transportation and safe disposal of PCB-containing oil, equipment and wastes. These plans will specifically target smallholders to ensure that their special technical, administrative and operational needs are addressed.

In addition, the existence of the national PCB decontamination facility is unique in Africa's context and will be an important knowledge sharing and dissemination tool for learned lessons across neighboring countries. The Ministry in charge of the Environment and local capacities with the support from international expertise, if needed will conduct capacity development activities.

Already the two first pillars of the Program for secure management of PCBs in Morocco have made significant achievements on raising awareness of concerned stakeholders on risks related to the presence of PCB-contaminated equipment, oils and waste and on measures necessary to the safe management of equipment still in use.

6. Communication

Following the CEO Endorsement request approval, the project will annually communicate on implementation progress, including evolution of identified risks and impacts on the project implementation using the PIRs. Periodic reports on the project status based on the template of the GEF 6 SC IAP Tracking tool will also be made available. The ESMP and the relevant progress reports (PIRs) will be disclosed on the UNIDO public website, under the following link: https://open.unido.org/index.html.

The proposed project is submitted following a one-step development process, building from results of the Morocco PCB management Program. Information related to stakeholders' engagement will be available during inception phase.

Table 3: Stakeholders engagement

Consultation	Purpose	Participants	Lead/Chair	Reporting	Schedule
Initial	Project Start up: ➢ Project Overview ➢ Project Organization ➢ Project Schedule ➢ Social and Env Impacts ➢ ESMP				
Public consultation & site visit	➢ Adjusting of mitigation measures, if necessary; ➢ Impact of replacing and updating activities; ➢ Comments and suggestions				
Public consultation & site visit	➢ Effectiveness of mitigation measures; ➢ Impacts of project implementation; ➢ Comments and suggestions.				
Expert workshop or press conference	➢ Comments and suggestions on impacts; ➢ public opinions				
Addressing Community Concerns	Consultation on Grievance Procedure				