COMPREHENSIVE ENVIRONMENTALLY SOUND MANAGEMENT OF PCBS IN MONTENEGRO

MID-TERM REVIEW REPORT

Dalibor Kysela
International Consultant

Snežana Marstijepović
National Consultant

October 2019

Acronyms and Abbreviations

AWP	Annual Work Plan
BEP/BAT	Best Environmental Practice and Best Available Technologies
CDR	Combined Delivery Report
CEDIS	Montenegrin power distribution company (Crnogorski elektrodistributivni system)
CEE/NIS	Central and Eastern Europe/Newly Independent States
CETI	Centre for Ecotoxicological Research (Centar za ekotoksikološka ispitivanja)
CPD	Country Programme Document
CO	Country Office
CW	Chemicals and Waste
DIM	Direct Implementation Modality
GEF	Global Environment Facility
EPA	Environmental Protection Agency
EPCG	Montenegrin Power Company (Elektroprivreda Crne Gore)
ERC	Evaluation Resource Centre
ESM	Environmentally Sound Management
HTI	High Temperature Incineration
IA	Implementing Agencies
IJZ	Institute of Public Health (Institut za Javno Zdravlje)
IR	Inception Report
IW	Inception Workshop
KAP	Podgorica Aluminum Plant (Kombinat aluminijuma Podgorica)
M&E	Monitoring & Evaluation
MEA	Multilateral Environmental Agreement
MoSDT	Ministry of Sustainable Development and Tourism
MOU	Memorandum Of Understanding
MPU	Montreal Protocol Unit
MSP	Medium Sized Project
MTR	Mid-Term Review
NGO	Non-Governmental Organization
NIM	National Implementation Modality
NIP	National Implementation Plan for the Stockholm Convention
NSSD	National Strategy for Sustainable Development
OGM	Official Gazette of Montenegro
OVI	Objectively Verifiable Indicators
PSC	Project Steering Committee
PCB	Polychlorinated Biphenyls
PIR	Project Implementation Review
PMU	Programme Management Unit
POPs	Persistent Organic Pollutants
PIF	Project Identification Form
POPP	Programme and Operations Policies and Procedures
PPE	Personal Protection Equipment
PPG	Project Preparation Grant
PPP	Public Private Partnership
ProDoc	Project Document
SBAA	Standard Basic Assistance Agreement
SDGs	Sustainable Development Goals
TOR	Terms of Reference
UN	United Nations
UNDAF	United Nations Development Assistance Framework
UNDP	United Nations Development Programme

Acknowledgement

The MTR team would like to thank to all those who devoted their time for the interviews during the MTR mission and subsequent reviews of draft MTR report, in particular to the members of the project implementation team, representatives of the agencies of the Government as well as representatives of the two main PCB holders. The MTR team appreciates provision of their valuable insights into the project implementation and contribution to the MTR through sharing their experiences and thoughts from working with the project that enabled effective and timely completion of this review.

Table of Contents

1. EXECUTIVE SUMMARY

Project Information Table

Project Title	Comprehensive Environmentally Sound Management of PCBs in Montenegro		
UNDP Project ID (PIMS #):	5562	PIF Approval Date:	01 June 2015
GEF Project ID (PMIS #):	9045	CEO Endorsement Date:	14 October 2016
Country(ies):	Montenegro	ProDoc Signature Date:	16 January 2017
Region:	CEE	Date project manager hired:	
Focal Area:	Chemicals and Waste	Inception Workshop date:	
GEF Focal Area Strategic Objective:	GEF-6 Objective	Midterm Review Date:	May-October 2019
Trust Fund:	GEF TF	Planned closing date:	31 December 2021
Executing Agency/ Implementing Partner	UNDP Montenegro		
Other execution partners:			
Project Financing	*at CEO endorsement (US$)*	*at Midterm Review (US$)*	
[1] GEF financing:	3,500,000	999,419	
[2] UNDP contribution:	50,000	24,175	
[3] Government:	200,000 (in kind)	-	
[4] Other partners:	19,603,691	8,429,678	
[5] Total co-financing [2 + 3+ 4]:	19,853,691	8,453,854	
PROJECT TOTAL COSTS [1 + 5]	23,353,691	9,453,273	

Project Description

The general objective of the PCB project is to reduce environmental and health risks associated with PCB waste through the establishment of environmentally safe management of PCBs. The project intends to provide the necessary technical and financial assistance to ensure that all the remaining PCBs in the country (estimated at the project inception not less than 900 t of PCB contaminated equipment and waste) are identified and safely disposed of.

The strategy of the project for disposal or decontamination of PCBs in Montenegro is to address the following critical issues:

1. Increase national PCB management capacities and enforcement of PCB-related legislation through work closely with the control authorities and the key stakeholders (the electric power industry and other owners of PCB-containing equipment). This is to be achieved by:

- developing and implementing a practical guidance on PCB environmentally sound management (ESM);
- providing assistance in fulfilment of legal obligations towards recording and reporting PCB related information;
- conducting inspections at sites of PCB-containing electrical equipment,

- training operators and officers on both sides – the governmental authorities and PCB equipment/waste owners.

2. Increase the industry and general awareness. Environmental and health risks of PCBs are not well known and fully understood. There is therefore the need to inform the main stakeholders and the public at large on the benefits from the project so that the government and the industry are encouraged to undertake necessary actions.

3. Ensure engagement of stakeholders. At the PIF stage, a number of important stakeholders had been identified for active involvement during the project implementation. As a result, they participated proactively in all the project preparatory activities, providing lists of their power equipment and facilitating oil sampling and analysis for PCB content.

4. Strengthen the reliability of information through updating of the PCB inventory. At PIF stage, the only available information was related to the list of phased-out PCB equipment and waste, a few pure PCB transformers, online or stored at KAP, oil tanks and contaminated material (mineral and synthetic oils, sawdust, soil, waste) potentially contaminated by PCBs. Due to the low enforcement of the legislation, there was very little information available on the concentration of PCB online equipment. The information concerning the number, age and level of contamination of PCB equipment is indeed essential for both management purposes and identification of the proper treatment / disposal technologies.

5. Provide know-how and financial support for adoption of technologies for disposal of PCB equipment. This is one of the central issues in ESM of PCBs.

The operational results framework of the PCB project is composed of 4 outcomes and 10 substantive outputs organized under the following project components:

Component 1. Capacity strengthening on PCB management;

Component 2. PCB Inventory, planning and establishment of public-private partnership;

Component 3. Environmentally Sound Management (ESM) of PCBs, and

Component 4. Monitoring, Learning, Adaptive Feedback and Evaluation

Project Progress Summary

At the time of MTR, the flagship deliverable of the project has been the advanced national inventory of PCB-containing electrical equipment in the format of an on-line database platform. The PCB registry helps to substantially reduce the information gap on the extent of PCB presence in the country through provision of exact information in terms of quantities and location of PCB-containing equipment. Using the already established strong national capacity for PCB analysis, the inventory also provides accurate information on the extent and level of PCB contamination of the electrical equipment. It is also worth noting that the first national registry of PCB-containing equipment, also serves as a springboard for elaboration of a National Plan for PCB Management and corporate PCB management plans to be prepared by the two principal PCB owners in the country.

On the institutional side, the project has increased capacities on ESM of PCBs for of a number of professionals from relevant governmental agencies, the national electricity distributing

company as well as from the private sector industry through elaboration and adoption of a set of seven technical guidelines on various aspects of the PCB waste management cycle. These guidelines incorporate requirements from the Stockholm and Basel conventions, EU regulations on POPs/PCBs management, as well as international guiding elements on Best Available Technology (BAT) and Best Environmental Practices (BEP).

On the side of practical implementation of the ESM of PCBs, the project has successfully completed collection, packaging and export of 248 tonnes of contaminated PCB waste (contaminated equipment, transformer oil and contaminated soil) for ultimate disposal at a recognized HTI hazardous waste disposal facility in the EU. The amount sent for the final disposal constitutes about 35% of the end-of-project target for PCB disposal.

Despite the above listed achievements, there have been few shortcomings in the project implementation. Relatively slow progress was noted in construction of dedicated PCB storage facilities at the two principal PCB holders in Montenegro.

The work on establishment of a public-private partnership that is proposed in the project to oversee the PCB management in the country in a medium to long term has not started yet due to the existing legislative gap, namely that approval of a draft law on PPPs is pending and unlikely to happen in the near future, therefore a temporary arrangement for coordination of PCB management beyond the current project duration should be considered in the absence of the law on PPPs.

There is also lack of progress on the technical and economic assessment of available options for decontamination of dielectric fluids with lower levels of PCB contamination that has not advanced as originally planned.

The total disbursement of GEF grant at the MTR stage stands at US$ 1,009,428.05 that gives the rate of implementation of the GEF grant 28.43%. As the project has already entered the second half of the implementation period, the outstanding balance of US$ 2,540,571.95 represents a substantial budget available for the remaining 28 months of the project implementation period.

The total co-financing at the MTR stage stands at US$ 8,200,528 that is 41.41% of the co-financing that had been pledged by the core stakeholders at the project inception. The actually realized co-financing contributions shows that the project has been successful at mobilizing substantive funds from the national counterparts and that the initial high level of commitment and project ownership by the two PCB holders has been maintained throughout the project implementation up to date.

In summary, the project has made progress by making available reliable information on the incidence and magnitude of PCB contamination to decision makers, technicians and workers. In order to achieve a real behavioural change, a more tangible progress is required on implementation of a robust regulatory and enforcement of the PCB legislation, assessment and demonstration of technologies and options for PCB disposal as well as awareness raising on the environmental and health risks of PCBs.

MTR Ratings & Achievement Summary

Measure	MTR Rating[1]	Achievement Description[2]
Progress Towards Results	Project Objective Rating: 4 (MS)	Mid-term target accomplished on development of the PCB database and guidance materials as well as on disposal of PCB waste, limited progress on PCB storage, no progress on decontamination/dehalogenation and PPP for long-term PCB management
	Outcome 1 Rating: 5 (S)	Delivery of both outputs on track. The Component is expected to achieve the end-of-project targets by the planned closing date of the project with only minor shortcomings
	Outcome 2 Rating: 5 (S)	Delivery of one output almost completed, the second output on track, the work on the third output has not yet started. The Component is expected to achieve the end-of-project targets by the planned closing date of the project with only minor shortcomings
	Outcome 3 Rating: 4 (MS)	Delivery of two outputs on track, the work on the third output has not yet started. The Component is expected to achieve some of its end-of-project targets but with risk of significant shortcomings
Project Implementation & Adaptive Management	Rating: 5 (S)	Two of the seven components rated Highly Satisfactory (HS), four components are rated Satisfactory (S) and one component got rated Marginally Unsatisfactory (MU)
Sustainability	Rating. 3(ML)	Moderate risks for all four sustainability sub-components, but expectations that a majority of outcomes will be sustained due to the progress towards results at the MTR stage.

[1] MTR rating scores are explained in Annex 6

[2] Details on the achievement are given in the respective sections Progress towards results, Project implementation and Adaptive management and Sustainability

Concise Summary of Conclusions

On progress towards the project objective and outcomes

The technical and economic assessment of cost-effectiveness of various technology options will be a complex exercise and will require considerable time for completion. In case the dehalogenation technology is identified as the preferable option, there will be additional sizeable time period required to obtain all necessary legal permits for operation and complete procurement, delivery and commissioning of equipment.

There is a risk that the protracted deficiency of the PPP legislation could negatively affect the environmentally sound PCB management beyond the duration of the current project. The Project Steering Committee should be considered as an interim body for coordination and oversight of PCB management in Montenegro until an effective PPP mechanism will have been created and institutionalized to assume this responsibility.

The information in the 2019 NIP update on amounts of PCB waste and PCB contaminated equipment in use in Montenegro suggests there is still a sizeable number of electrical equipment in the country that is potentially contaminated with PCBs where the level of PCB content has not yet been ascertained, and it is expected that throughout implementation of this project all PCB contaminated equipment and waste will be identified and the national PCB inventory will be adequately updated.

A thorough assessment of available options for handling the special transformers at Uniprom-KAP will be necessary to take into account advantages and disadvantages of total replacement of the special PCB transformers as well as alternatives to the total replacement in order to optimize the associated costs.

Although the Montenegrin legislation is well advanced and generally compliant with the international regulations (the Stockholm Convention and the EU directive on management of PCBs) and substantive progress has been achieved in updating the inventory of PCB waste, effectiveness of enforcement of the legislation is critical for the success of management and progress on PCB phase-out in Montenegro.

Postponement of the legal obligation for PCB phase-out could diminish the commitment to early action as the PCB holders may decide to push back their plans for PCB phase-out well beyond the completion date of the current project. Therefore, this motion raises concerns as to whether the project will be able to provide assistance in phasing-out the planned amounts of PCB equipment and waste during the implementation period of the project that will end in 2021.

Insufficient communication with wider circle of stakeholders could limit the general support for the intervention, especially in cases when advocacy or policy change are needed to increase the level of priority given to the PCB-related issued by the authorities.

One of the reasons that PCBs are not immediately perceived as a hazard by the common public is low level of involvement of institutions of higher education and NGOs in the national PCB debate. Consequently, the issue of PCBs is very often given a low priority by the public at large.

Although the 2014-2019 NIP called for establishment of a system for collecting data on use of PCBs in the industry of plastics, coatings, paints and varnishes, as well as paints in construction, no activities in this regard have been conducted to date. Montenegro has sufficient capacities for sampling and data analysis of caulking and paints used in building construction. This could become a foundation for eventual preparation of future activities on measuring PCB exposure levels for compliance with health-based exposure limits.

On project implementation and reporting

Inconsistencies in the formulation of achievement target indicators in the project results framework obstruct monitoring and evaluation of the project performance.

Low amounts of in-kind co-financing reported by CEDIS and Uniprom-KAP and absence of in-kind co-financing data from MoSDT indicate that not all in-kind co-financing has been properly calculated and reported to PMU. This deficiency will hinder rigorous assessment of the parallel financing at the terminal evaluation.

Critical risk management is a standard part of the annual PIRs and periodic re-assessment of a risk management plan by both PMU and RTA is fundamental to the project's implementation and success. Labelling a risk as critical provides an important alert to the project implementation that facilitates development of timely and effective risk mitigation measures.

Recommendation Summary Table

No.	Recommendation
1	PMU should initiate the analysis of the technical and economic feasibility of disposal of low-concentration PCB waste by an independent consultant as a matter of the highest priority and investigate the legislative requirements and timelines necessary for securing relevant permits for different disposal technology options.
2	PMU in cooperation with PSC should develop a road map for continued coordination of PCB management in the country, including consideration of temporary institutionalization of PSC beyond the project completion date.
3	PMU in cooperation with CEDIS, and other owners of the recently identified potentially PCB-contaminated equipment and CETI should initiate sampling and analysis of this equipment, including capacitors owned by CEDIS and transformers owned by other entities including the so called "unknown owners" in order to establish the amounts of PCB-contaminated equipment and waste for disposal or decontamination.
4	PMU should solicit necessary external expertise for assessment of available technological and financial options in order to determine feasible alternatives for decontamination or disposal of the special transformers at Uniprom-KAP.
5	PMU should ensure provision of international expertise in enforcement of PCB legislation for hands-on training of the national environmental inspectors.
6	PMU in collaboration with MoSDT should consider elaboration of a proposal for legal and financial incentives to encourage the PCB holders to take early actions for phase out of the in-service electrical equipment well in advance of the 2025 deadline. In addition, the PMU in collaboration with CEDIS and Uniprom-KAP should consider introducing presentation of maintenance plans of online PCB equipment at PSC meetings and discuss timelines for replacement and disposal of online PCB equipment well before the project ends in 2021
7	PMU in cooperation with MoSDT should ensure cooperation with the on-going research project on health impact of PCBs that is being implemented by the Montenegrin Institute for Public Health. The cooperation should focus on monitoring PCB health impacts for workers with electrical equipment and communities living in the neighbourhood of the temporary PCB storage facilities.
8	PMU in cooperation with the main PCB holders should consider practical involvement of students of higher education in activities on PCB management, for example through participation of students in the preparation of the next export shipment of PCB waste.
9	PMU in cooperation with MoSDT and other relevant governmental agencies should consider *pilot testing on sampling and analysis of* PCBs in caulk, glazing and painting materials in older buildings.
10	PMU should consider a revision of the project results framework to ensure its consistency and full compliance with the principles of the results-based management.
11	PMU in cooperation with MoSDT and the two major PCB holders should develop and agree clear rules for accounting of the in-kind contributions to the project.
12	PMU should conduct a thorough reassessment of the project risks after the MTR stage and ensure that critical risks are properly identified and addressed in the Critical Risk Management section of the annual PIRs together with the corresponding assessment from the side of RTA.

2. INTRODUCTION

This report presents the findings of the Mid-Term Review of the UNDP/GEF project "Comprehensive Environmentally Sound Management of PCBs in Montenegro" (further referred to as "the PCB project").

Purpose of the MTR and Objectives

As outlined in the GEF Monitoring and Evaluation Policy, Mid-Term Evaluations (also known as Mid-Term Reviews, MTRs) are a mandatory requirement for all GEF-financed full-sized projects and constitute an important part of the GEF projects' monitoring and evaluation plan. MTRs are primarily a monitoring tool to identify challenges and outline corrective actions to ensure that a project is on track to achieve maximum results by its completion. In order to fulfil the above purpose, MTRs are conducted in order to assess the projects' progress towards results, implementation and adaptive management for improvement of outcomes, facilitate early identification of risks to sustainability and provide supportive recommendations.

The objective of MTR is to provide the project partners i.e. GEF, UNDP, key stakeholders/ private institutions and the Government of Montenegro, with an independent assessment of progress towards achievement of the project objectives and outcomes as specified in the Project Document. MTR also provides independent assessment of early signs of project success or failure with the goal of identifying the necessary changes to be made in order to set the project on-track to achieve its intended results. Last but not least, MTR also reviews the project's strategy and its risks to sustainability.

As a standard requirement for all projects financed by GEF, this MTR has been initiated by the project Implementing Agency, in this case UNDP. This MTR has been conducted according to the guidance, rules and procedures established by UNDP and GEF as reflected in the UNDP Evaluation Guidance for GEF Financed Projects[3].

Scope and Methodology

This MTR covers all activities undertaken in the framework of the project. The time scope of MTR is the implementation period of the PCB project from January 2017 up to September 2019 and the geographic scope is Montenegro.

The MTR has been carried out using a participatory approach that seeks to inform and consult with key stakeholders associated with the project using the primary evaluation criteria for GEF MTRs listed in the Terms of Reference for the evaluation, i.e. Project Strategy, Progress towards Results, Project Implementation & Adaptive Management, and Sustainability.

Below is presented a summary of the following elements that have been covered in the evaluation, based on the MTR Terms of Reference (TOR):

[3] Guidance for Conducting Midterm Reviews of UNDP-supported, GEF-financed Projects UNDP-GEF, 2014
The GEF Monitoring and Evaluation Policy, GEF Evaluation Office, 2010
UNDP Evaluation Guidelines, UNDP, 2019

Project Strategy
• Project design
• Results framework/logframe

Progress Towards Results
• Progress towards outcomes analysis
• Remaining barriers to achieving the project objective

Project Implementation and Adaptive Management
• Management arrangements
• Work planning
• Finance and co-finance
• Project-level monitoring and evaluation systems
• Stakeholder engagement
• Reporting and communications

Sustainability
• Financial risks to sustainability
• Socio-economic risks to sustainability
• Institutional framework and governance risks to sustainability
• Environmental risks to sustainability

TOR for the mid-term review is provided as Annex 1.

MTR Approach and Data Collection Methods

The MTR used the following evaluation instruments:

Evaluation Matrix: An evaluation matrix was constructed based on the evaluation scope presented in the TOR. The matrix is structured along the four GEF evaluation criteria for MTRs and includes principal evaluation questions. The matrix provided overall direction for the evaluation and was used as a basis for interviewing stakeholders and reviewing project documents. The evaluation matrix is provided as Annex 2.

Documentation Review: The evaluators conducted a review of documents that were made available by the Project Coordination Unit (PCU) as well as other documents found from various other sources. The documents served as the main source of information and for preparation for the MTR mission to Montenegro.

MTR Mission Agenda: After the initial review of available documents, the evaluation team and PCU drafted an agenda for the MTR mission that included key national project stakeholder institutions to be visited and interviewed by the evaluator during the mission. The interviews were planned in advance of the mission with the objective to obtain a scan of stakeholders' views during the time allocated to the mission. The agenda of the MTR mission is provided as Annex 3.

Interviews: The evaluators conducted a number of face-to-face consultations with the key project stakeholders using semi-structured interview questions. Through the interviews, the consultants obtained information about the key informants' impressions and experiences from implementation of the project. Triangulation of results, i.e. comparing information from different sources, such as documentation and interviews, or interviews on the same subject with

different stakeholders, was used to corroborate or check the reliability of evidence. The list of people interviewed is provided as Annex 4.

Project Site Visits: These visits included project sites as well as offices of key actors in the field in order to make on-site observations and obtain feedback to the problems addressed by the project.

MTR Report: After the data collection phase with conducting interviews, observing selected outputs and reviewing data from existing data sources, data analysis followed as the final phase of MTR. Data analysis involved organizing and classifying the information collected, tabulating it, summarizing it, and comparing the results with other appropriate information to extract useful information that responds to the evaluation questions and fulfils the purposes of MTR. In this process the evaluators took care of checking factual evidence ensuring its accuracy and translating the data into usable formats or units of analysis related to the evaluation questions. The list of documents consulted is provided as Annex 5.

Structure of the MTR Report

This report closely follows the structure of the MTR report outlined in the Terms of Reference that was prepared by UNDP Country Office in Montenegro as the commissioning unit for this MTR.

The first part of the report describes the project background and summarizes factual information that was assembled during the initial data collection phase. The second part contains information that was collected through consultations with the key stakeholders before, during and eventually also after the MTR mission. The third part provides evidence-based conclusions connected to the findings from the second part and recommendations in the form of corrective actions for the design, implementation, management arrangements as well as for monitoring and evaluation of the project.

Constraints and Limitations

The findings and conclusions contained in this report are based primarily on a thorough desk review of documents that were made available to the evaluators, a one-week mission to Montenegro, as well as follow-up exchanges by email. During the MTR mission, the evaluators interviewed representatives of the key stakeholders in the capital city Podgorica and selected field sites.

The MTR consultants were able to conduct a detailed assessment of progress towards the expected results.

3. PROJECT DESCRIPTION AND BACKGROUND CONTEXT

Project Context

It is well known that the exposure to Persistent Organic Pollutants (POPs) can lead to serious health effects including certain cancers, birth defects, dysfunctional immune and reproductive systems, greater susceptibility to disease and damages to the central and peripheral nervous systems. The Stockholm Convention on POPs has been established based on the consideration that, given the long-range transportation of POPs, no one government acting alone can protect its citizens or its environment from POPs.

Montenegro has been a party to the Stockholm Convention on Persistent Organic Pollutants (hereinafter referred to as POPs) since March 2011 and in response to Article 7 the country developed its National Implementation Plan (NIP) in November 2013. After the institutional strengthening (listed as the first priority in the NIP), PCB management and elimination of equipment containing PCBs is the highest priority identified in the NIP. The updated National implementation plan for Stockholm convention was adopted in July 2019 and submitted to the Secretariat to the convention in September 2019.

Montenegro has also been a Party to the Basel Convention since 2006. This is an important Multilateral Environmental Agreement (MEA) as regards the transboundary transportation (import and export) of waste, its disposal and relevant international rules, standards and guidelines on sounds POPs.

In addition to ratification of the Stockholm and Basel Conventions, Montenegro ratified the Convention on Long Range Trans-Boundary Air Pollution with three protocols out of which one is the Protocol on POPs. Moreover, Montenegro ratified the Protocol on Pollutant Release and Transfer Registers in July 2017 and the Convention on Protection of the Mediterranean Sea against Pollution (Barcelona Convention).

Waste management in Montenegro is organized in accordance with the legal framework that complies with EU regulations, respecting the principles of sustainable development, proximity and regional waste management, preventive action, as well as the "polluter pays" principle. The Law on Waste Management (OGM 64/11, 39/16) stipulates that waste management is carried out in accordance with the state and local waste management plans.

The Law on Waste Management further determines the types and classification of waste, planning, requirements and method of waste management and other issues of importance for waste management. This Law defines PCBs as a polychlorinated biphenyls (PCB), polychlorinated terphenyls (PCT), monomethyl-tetrachlorodiphenyl methane, monomethyl-dichloro-diphenyl methane, monomethyl-dibromo-diphenyl methane or any other mixture containing any of the abovementioned substances in a total of more than 0,005 % by weight, including equipment, objects, materials or fluids that contain, consist of or are contaminated with PCBs. The National Solid Waste Management Plan must include measures for the extraction of PCBs and the decontamination of equipment and the PCBs contained in it and the deadlines for carrying out decontamination or disposal. It is forbidden to mix waste oil during collection or storage of other hazardous wastes, including waste containing PCBs.

The law prohibits:

1. processing PCB and packaging which contains PCBs;

2. import of equipment containing PCBs;

3. incineration of PCB on board ships and

4. filling transformers and other closed systems (condensers/capacitors) with liquids containing PCBs.

Also, waste containing PCBs may be processed after the PCB is extracted from the waste. The holder of equipment and waste containing PCBs shall provide waste treatment and decontamination of equipment containing PCBs. Extraction of PCB from equipment, PCB processing and decontamination of equipment can be performed by a company or entrepreneur, provided that it has the appropriate equipment, the facility for temporary storage of PCB and the required number of employees, based on the permit for the removal of hazardous waste. Incineration of PCBs is carried out in waste incineration plants that meet the requirements hereof.

The Law provides that the owner of the equipment and waste containing PCBs shall prepare a Plan for the management of equipment and waste containing PCBs, as well as keep records of the equipment, waste PCB and quantities of PCB and shall submit all the data from the records to the Agency for Environmental Protection.

Problems that the project will address

In Montenegro, the following barriers need to be addressed to ensure the Environmentally Safe management of PCBs and avoid that PCBs are released in the environment as a consequence of improper disposal:

- Limited amount of data available to establish a comprehensive national PCB inventory;
- The limited capacity on monitoring and inspection hinder the enforcement of the national regulation framework on PCBs;
- Information on cross-contaminated transformers (i.e. transformers originally designed as non-PCB and contaminated as a result of mismanagement) is scarce, as most of the information concerns pure PCB equipment, therefore the extent of the electrical equipment cross-contamination is not clear;
- As one of the consequences, holders of PCB contaminated equipment mostly do not keep updated records of PCB equipment and waste (including PCB equipment phase-out plans) and this does not fully comply with the legal reporting obligation, hindering the process of national PCB disposal planning and appropriate dissemination of information to general public.
- There are no disposal technologies for PCBs in place or national know-how for comprehensive PCB management in Montenegro (beside occasional export practice). Although, due to the size of the country and the expected amount of PCB waste, it may still be more cost effective to send PCB waste abroad for disposal, an in-depth cost estimation on the matter has not been undertaken to allow documented and informed decision making;

- Some of the companies cannot afford the cost of replacement of old transformers contaminated by PCBs with new non-PCB equipment which implies that such aging equipment will be still in operation for certain period of time before being disconnected. In addition, some of the companies have ceased to legally exists (e.g. bankruptcy), posing the question of liability for "orphan" PCB equipment and waste.

Project description and strategy

The general objective of the PCB project is to reduce environmental and health risks associated with PCB waste through the establishment of environmentally safe management of PCBs. The project intends to provide the necessary technical and financial assistance to ensure that all the remaining PCBs in the country (estimated at the project inception not less than 900 t of PCB contaminated equipment, waste and soil) are identified and safely disposed of.

The strategy of the project for disposal or decontamination of PCBs in Montenegro is to address the following critical issues:

1. Increase national PCB management capacities and enforcement of PCB-related legislation through work closely with the control authorities (mainly the Ministry for Sustainable Development and Tourism and the Inspection Administration – the Environmental Inspection Sector) and the key stakeholders (the electric power industry and other owners of PCB-containing equipment). This is to be achieved by:
    - developing and implementing a practical guidance on PCB environmentally sound management (ESM);
    - providing assistance in fulfilment of legal obligations towards recording and reporting PCB related information;
    - conducting inspections at sites of PCB-containing electrical equipment,
    - training operators and officers on both sides – the governmental authorities and PCB equipment/waste owners.
2. Increase the industry and general awareness. Environmental and health risks of PCBs are not well known and fully understood. There is therefore the need to inform the main stakeholders and the public at large on the benefits from the project so that the government and the industry are encouraged to undertake necessary actions.
3. Ensure engagement of stakeholders. At the PIF stage, a number of important stakeholders had been identified for active involvement during the project implementation. As a result, they participated proactively in all the project preparatory activities, providing lists of their power equipment and facilitating oil sampling and analysis for PCB content. More stakeholder engagement, by involving other line Ministries, academic institutions and NGO sector was planned for the project implementation to include civil society associations and other beneficiaries.
4. Strengthen the reliability of information through updating of the PCB inventory. At PIF stage, the only available information was related to the list of phased-out PCB equipment and waste, a few pure PCB transformers, online or stored at KAP, oil tanks and contaminated material (mineral and synthetic oils, sawdust, soil, waste) potentially contaminated by PCBs. Due to the low enforcement of the legislation, there was very little

information available on the concentration of PCB online equipment. The information concerning the number, age and level of contamination of PCB equipment is indeed essential for both management purposes and identification of the proper treatment / disposal technologies. The project will continue consolidating the PCB inventory by undertaking dielectric oil sampling and analytical determination of PCBs in 3,000 pieces of equipment during the first two years of its implementation.

5. Provide know-how and financial support for adoption of technologies for disposal of PCB equipment. This is one of the central issues in ESM of PCBs.

Based on the strategy outlined above, the project was designed to provide the country with the necessary technical and financial assistance to ensure that all the remaining PCBs in the country (estimated to be not less than 900 t of PCB contaminated equipment and waste) are identified and disposed of.

The operational results framework of the PCB project is composed of 4 outcomes and 10 substantive outputs organized under the following project components:

Component 1. Capacity strengthening on PCB management;

Component 2. PCB Inventory, planning and establishment of public-private partnership;

Component 3. Environmentally Sound Management (ESM) of PCBs, and

Component 4. Monitoring, Learning, Adaptive Feedback and Evaluation

Although the project expects to solve all the remaining PCBs issues in the country, it will ensure that enough capacity for the sound management of PCB is built for the management of any further PCBs identified after project's closure.

Expected project results

Global Environmental Benefits: It is envisaged that under the project, 700 tons of PCB contaminated equipment, and 200 t of PCB containing waste including contaminated soil will be properly disposed of in such a way that the PCB content in these equipment or waste will be irreversibly destroyed. Therefore, the project is expected to contribute to the implementation of the Stockholm Convention's obligations by Montenegro.

The project is expected to use consolidated technologies for the disposal of PCBs. High concentration PCB waste (transformers and mineral oil contaminated with PCBs) will be pre-treated as necessary, packaged and shipped for destruction through high temperature incineration (HTI) or co-incineration in BAT/BEP compliant plants in compliance with the Basel convention rules.

For transformer oil and equipment with low level of PCB contamination, the choice is between the import (renting or purchasing) into the country of a technology for the dehalogenation of PCB contaminated oil, or, again, export of the equipment to be treated in compliance with Basel Convention rules. The choice between these two options will be based on technical and economical considerations.

Socio-Economic Benefits: The direct and immediate benefits are those related to the implementation of the project itself, including employment of project staff and operators;

establishment of a public-private partnership for the management of the PCB contaminated equipment and waste; financial incentive for the PCB owners for the sampling, analysis and treatment of their PCB-contaminated equipment.

The indirect benefits include removal of PCB sources (equipment, waste, contaminated soil) from the environment and prevention of environmental contamination by these substances. This will translate in a reduced mortality and morbidity of the population in the long term, with specific reference to the pathologies associated to exposure to PCBs, resulting in the reduction of social and economic costs.

Knowledge Management: The project is expected to generate a significant mass of knowledge and technical capacity on management of PCB waste by the project partners and contribute towards creation of skills and capacities on the management of hazardous waste in general and PCB waste in particular.

Project implementation arrangements

The project has been implemented following UNDP's Direct Implementation Modality (DIM), in line with the Standard Basic Assistance Agreement (SBAA, 2006) between the UNDP and the Government of Montenegro, and the Country Programme Document (CPD) for 2017-2021.

UNDP Country Office in Montenegro as the Implementing Partner is responsible and accountable for managing the project, achieving the planned project outcomes, monitoring and evaluation of project interventions, as well as for effective use of project resources.

The Ministry of Sustainable Development and Tourism (MoSDT) assumed the role of the Senior Beneficiary, representing the interests of those who will ultimately benefit from the project.

The Implementing Partner established the Project Steering Committee (PSC) to give oversight and advisory function to the project implementation. PSC consists of representatives of key project stakeholders.

The Project Management Unit (PMU) was established to provide day-to-day management of the project. PMU consists of the Programme Manager of the Economy and Environment Cluster, the National Project Coordinator and the Administrative Assistant. PMU assumes overall responsibility for the implementation of project activities, achievement of planned project outputs, and reporting in accordance with the administrative procedures of UNDP and GEF.

The technical support for the project is provided by the International Technical Advisor at UNDP Chemicals based in the Istanbul Regional Hub (IRH) that also carries out independent project oversight and monitoring functions.

Project timing and milestones

The Montenegro PCB project was approved for implementation as a full-size GEF project on 14 October 2016 for the duration of 60 months. The approved GEF project grant amounts to US$ 3,500,000 with the total 19,803,691 US$ pledged as parallel co-financing commitment by

the main project stakeholders, and the US$ 50,000 pledged as co-financing by UNDP TRAC resources.

The specific timeline of the project is summarized in Table 2 below.

Table 2: Key dates for approval and start-up of the project

Milestone	Date
PIF Approval Date	4 June 2015
CEO Endorsement Date	14 October 2016
Project Document Signature Date (project start date)	16 January 2017
Project Inception Workshop	26 May 2017
Date of the Mid-term Review	20 September 2019
Expected Date of Terminal Evaluation	16 October 2021
Planned Closing Date	31 December 2021

Main project stakeholders

The project's main stakeholders identified at the project preparatory phase were the Ministry for Sustainable Development and Tourism, the National Electricity Power Company (Elektroprivreda Crne Gore - EPCG[4]), the Podgorica Aluminum Plant (Kombinat aluminijuma Podgorica – Uniprom-KAP[5]) and other confirmed or potential holders of equipment contaminated by or containing PCB.

The Ministry of Sustainable Development and Tourism (MoSDT), among other things, carries out tasks related to management of chemicals and biocidal products, protection of air from pollution, integrated coastal zone management, integrated pollution protection of the sea, control industrial pollution and risk management, the application of new and cleaner technologies production, as well as waste and wastewater management.

Within the Ministry, two Directorates are essential for the management of PCBs: Directorate for the Environment and Directorate for Waste Management and Utility Development.

The Environment Directorate performs tasks related to policies and protection system for environmental improvements (air, land, sea, flora and fauna, chemicals) and development of strategies and other policy documents, programmes and projects in the field of environment.

The Waste Management and Utility Development Directorate performs tasks related to proposing, monitoring and directing policies in the areas of waste management and municipal activities; harmonization of national legislation with EU legislation in the field waste management and municipal development; proposing, selecting and monitoring realization systematic measures for the implementation of strategic documents, plans, programs and action plans in the areas of waste management.

The Environmental and Nature Protection Agency (NEPA), as a regulatory body in the field of environmental quality monitoring and protection, assist in PCB inventory data collection and management, licensing for the current and future waste treatment activities, development of

[4] In 2016, the distribution system operator Crnogorski elektrodistributivni system – CEDIS was separated from the mother company EPCG. CEDIS is the holder of transformers and capacitors.
[5] The Kombinat aluminijuma Podgorica – KAP was acquired by the Montenegrin company "Uniprom" in July 2014.

technical guidelines and environmental monitoring. At the same time, NEPA will benefit from the Project implementation in terms of obtaining a comprehensive national PCB equipment and waste database, country's PCB management plan and various training and building capacity activities.

The Administration for Inspection Affairs is responsible for the enforcement of legal provisions and control over the PCB owners, and works closely with MoSDT and NEPA, and the project, in order to secure that PCB holders are familiar with all legal requirements and fulfilling them in substantial manner in order to secure sustainability of project activities.

Centre for Ecotoxicological Research (Centar za ekotoksikološka ispitivanja - CETI) is accredited for testing POPs substances including PCBs. Additional project stakeholders include other line ministries, academic institutions and organizations of the civic sector.

EPCG/CEDIS and Uniprom-KAP as the two principal owners of power equipment potentially contaminated by PCBs are at the same time the direct beneficiaries of the project and one of the key partners.

The Project Document includes a detailed stakeholder analysis and involvement plan that provides an overview of main stakeholder types to be involved in or affected by the project and their respective roles and responsibilities.

4. FINDINGS

This section brings a summary of empirical facts based on data collected during the review. The MTR team paid particular attention to cross-verification of the evaluative evidence using multiple sources of information and, to the extent possible, avoid overreliance on opinions obtained during the interviews.

Project Strategy

The MTR team conducted an analysis of the design of the project as outlined in the Project Document and assessed whether the project strategy is proving to be effective in reaching the desired results. In doing so, the evaluators judged the extent to which the project addresses country priorities and is country driven. Furthermore, the evaluators assessed the extent to which the project objectives are consistent with the priorities and objectives of the GEF.

Project Design

The Montenegro PCB project is aligned with The National Strategy for Sustainable Development (NSSD) until 2030 that represents a strategic framework for the transposition of the UN sustainable development goals (SDGs) and its indicators into the national context. The Strategic Goal 4.3 of the related Action Plan calls for improvements in the waste management through circular economy approaches and the Strategic Goal 5.2 aims at strengthening environmental management by improving implementation of environmental protection instruments.

The project is also linked with the National Chemical Management Strategy 2019-2022, and the related Action Plan 2019-2022 for the purpose of ensuring adequate management of chemicals, production or import until disposal. The overall strategic goal to be achieved by the Strategy is:

> *"…. to establish a chemical management system that provides a high level of protection to human health and the environment, as well as improving free exchanges with the EU countries and other countries while fostering the competitiveness of the Montenegrin economy through introduction of safer chemicals and technological processes."*

The project addresses PCB waste from several sources that are listed in the National Plan on Waste Management 2015-2020 that includes, *inter alia*, quantities of waste equipment containing PCBs and export data on PCB waste (types, quantities and origin of waste exported).

The project also links to the National Implementation Plan (NIP) for the Stockholm Convention for 2014-2021 that contributes to implementation of the obligations arising from the Convention, through raising awareness of POPs, including PCBs, and measures for their control, and establishes a strategy and action plan for further steps towards fulfilling the obligations. NIP proposes five measures in order to properly manage PCBs and fulfil the obligations of the Stockholm Convention, namely:

- *Organize training in order for the equipment to be used in a safe way, then replaced and exported for safe destruction;*

- *Establish system for collecting data on use of PCBs in the industry of plastics, coatings, paints and varnishes, as well as paints in construction,*
- *Establish temporary stockpiles for equipment and waste containing PCBs, which the owner has no conditions to safely store until the final disposal;*
- *Develop plans for replacement of equipment containing PCBs in accordance with the Law on Waste Management, and*
- *Ensure financial support for resolving PCB elimination.*

The project addresses four out of the five above measures proposed by NIP.

In 2016-2018, a review and update of NIP was conducted under an GEF-funded enabling activity project implemented by UNEP. This review reconfirmed the commitment of the Government to rigorous inventory of PCBs and development of National PCB Management Plan. As a results of this project, the Government of Montenegro adopted updated NIP with Action plan 2019-2023.

The project also addresses important issues in the Law on Waste Management that was enacted in 2016. Article 93 of the Law stipulates the following requirements:

…..

> *(3) Separation of PCBs from equipment and decontamination of equipment containing PCBs may be carried out no later than by 31 December 2020.*
>
> *(4) Equipment containing PCBs may be used by 31 December 2020 at the latest.*
>
> *(5) Equipment containing PCBs may be used after the expiry of the period referred to in paragraph 4 of this Article, provided that it is decontaminated.*

……

Relevance to national development priorities is also assessed through activities of other donors. The PCB project has tight links with the Industrial Waste Management and Clean-up Project funded by the World Bank. The development objective of the latter project is to reduce contamination of Montenegro's natural resources and public health risks of exposure to this contamination from selected industrial waste disposal sites. The project, financed through a World Bank loan of 68.9 million US$, has been implemented since 2014 (recently the original implementation period was extended by 12 months until June 2020). Specifically, the World Bank project supports preparation of technical documentation for remediation works on two industrial waste disposal sites (red mud basins and landfill of hazardous waste) at Uniprom-KAP in Podgorica and further development of the regulatory framework for hazardous and industrial waste management in Montenegro. Except for the location KAP, the World Bank project also has the aim to support remediation of the shipyard Bijela, Pljevlja Thermal Power Plant and Mine "Šuplja stijena" Pljevlja.

Furthermore, the PCB project aligns with the GEF-6 Chemicals and Waste (CW) Focal Area where GEF continues to play a catalytic role in leveraging budgetary resources from national governments and incentivizing the private sector to contribute more to the achievement of elimination and reduction of harmful chemicals and waste.

Specifically, the PCB project addresses Programme 1 of CW that asks the countries to "*Develop the enabling conditions, tools and environment for the sound management of harmful chemicals and wastes"*, and Programme 3 of the same that calls for "*Reduction and elimination of POPs".*

The Montenegro PCB project is also in line with the Integrated UN Programme for Montenegro 2017–2021 that under the Priority Area 2.2. Environmental Sustainability strives for strengthening chemical and radioactive waste management capacities in relevant institutions in line with international standards.

The MTR team concludes that the Montenegro PCB project is relevant for the needs and priorities of the recipient country and consistent with the strategic and programmatic priorities of the donor and implementing agencies.

Results Framework/Logframe

The evaluators performed critical analysis of the project results framework in order to establish whether it has the necessary elements and whether it enables measurement of success and progress to success.

The formulation of the Montenegro PCB project started with preparation and approval of the Project Identification Form (PIF) in June 2015 that outlined the objective, outcomes and outputs. This document also served as a basis for formulation of objectives and outputs of the Project Document, approved in October 2016. Both documents have been prepared through extensive consultations with relevant governmental and industrial stakeholders. The PIF contains results framework composed of three substantive components, eight outcomes and twenty outputs, the logframe in the Project Document is composed of three components/outcomes and 8 outputs. It appears that there was a mismatch in PIF where the outputs were in fact activities. Therefore, the results framework in PD provides a better description of the project results hierarchy and structure.

The three project components address the three most important areas for intervention for a PCB project, namely i) technical and institutional capacity building for PCB management, ii) establishment of an ESM system of PCBs, and iii) practical implementation of the ESM system.

Apart from the capacity building of the main stakeholders (operators in the power sector and officers in the environmental control authority) and assistance on enforcement of the laws and regulations related to PCBs, Component 1 contains also two small ingredients regarding public awareness and gender dimension of PCB management, respectively. These two elements appear to be somewhat annexed to the Component rather than being an integral part of it.

Furthermore, the PD results framework contains a list of 4 indicators proposed as benchmarks for measurement of achievements of the project objective and 14 indicators for measurement of outcomes. Several indicators are confused as indicator target values are listed instead of description of the objective and outcome indicators. Based on this assessment, Table 3 below proposes changes of the objective and outcome indicators for such cases.

Table 3: Assessment of the objective and outcome indicators in the Project Document

Original project objective indicators - original	**Assessment**	**Suggested modified project objective indicators**
National environmentally sound management (ESM) system of PCB chemicals and waste drafted, and implemented by 2020	This is a mixture of an indicator and its target values	Existence of a National environmentally sound management (ESM) system of PCBs
700 tons of pure PCBs and 200 tons of low-concentrated PCBs/related waste are safely managed and disposed of/decontaminated by the end of the project, thus reducing global and local environment from exposure to these hazardous wastes	This is not an indicator but an indicator target value	Amount of equipment or waste containing or contaminated by PCB disposed in an environmentally sound way
Amount of PCB equipment identified and listed in the PCB inventory and included in the national management plan	Correctly formulated indicator	No change
Amount of PCB contaminated equipment and waste treated or disposed of	Correctly formulated indicator	No change
Original project outcome indicators	**Assessment**	**Suggested modified project outcome indicators**
Number of operators of the electric sector and of the environmental control authority trained on and feel confident in practically applying the ESM system for PCBs	Correctly formulated indicator	Existence of a National environmentally sound management (ESM) system of PCBs
Number of technical and procedural guidance documents compliant with Stockholm Convention and national regulation completed and endorsed	Correctly formulated indicator	Amount of equipment or waste containing or contaminated by PCB disposed in an environmentally sound way
Gender Dimension in the context of PCBs issue in Montenegro completed, strategies for better Gender Mainstreaming in POPs related activities identified	This is not an indicator but an indicator target value	Existence of gender of gender dimension study and number of strategies for gender mainstreaming identified
Level of enforcement of the Montenegro's law on PCB management strengthened, measured through the number of owners of electrical equipment complying with the regulation	Indicator is not SMART	Degree of implementation of inspection plans measured by % of executed in comparison with planned environmental inspections
One consolidated country-wide PCB inventory updated and completed, with appropriate data of sampling dates and analysis results of phased out and in-use equipment	This is not an indicator but an indicator target value	Existence of the country-wide PCB inventory
The PCB national management plan is drafted and approved	This is not an indicator but an indicator target value	Existence of the national PCB management plan
An innovative public-private partnership for the management of PCB contaminated equipment and waste is established and supports national PCB disposal/decontamination effort	This is not an indicator but an indicator target value	Existence of an innovative public-private partnership
National PCB storage capacity, in terms of a mass of PCB equipment and waste that can be safely stored, of selected storage facilities in the country is available and up to international standards	Correctly formulated indicator	No change
Storage facilities are upgraded and monitored under the project for the safe storage of PCB equipment/oils/waste pending final disposal or decontamination procedures	This is not an indicator but an indicator target value	Number upgraded PCB storage facilities and their status
Documentary and direct evidence that environmentally sound technologies or services for PCBs disposal/dehalogenation have been identified, assessed and procured	This is not an indicator but an indicator target value	Acquisition of PCB disposal/dehalogenation technology
Amount of equipment or waste containing or contaminated by PCB disposed in an environmentally sound way	Correctly formulated indicator	No change

The evaluators found the correctly formulated indicators in line with the SMART criteria, i.e. specific (S), measurable (M), attainable (A), realistic (R) and time-bound (T).

Last but not least, it has to be noted that the project formulation followed the approval of the 2014-2021 NIP but for the 2013 NIP survey of PCBs in the country was based only on data from the Administration of Inspection Affairs that did not contain quantitative information about equipment containing or contaminated with PCBs and on quantities of other PCB wastes (such as dielectric fluids and soil). The deficient baseline information led to overestimated and thus unrealistic target values of the objective and outcome indicators related to quantities of PCB waste to be addressed by the project.

Progress Towards Results

Progress towards outcomes analysis

The information presented in this section has been sourced from the annual Project Implementation Reports (PIR) for 2018 and 2019, supplemented with information collected during the MTR mission to Montenegro.

The progress towards the four project outcomes is presented for each outcome in separate Tables 4-7 and the overall progress towards the project objective is summarized in Table 8.

Table 4: Achievements at MTR for Outcome 1

Component/Outcome 1: Capacity strengthening on PCB management.			
Output 1.1: Operators of the electric sector and of the environmental control authority are trained on the ESM of PCBs			
Indicators	**Mid-Term Targets**	**Status at MTR**	**Rating[6]**
Number of operators of the electric sector and of the environmental control authority trained on and feel confident in practically applying the ESM system for PCBs Number of technical and procedural guidance documents compliant with Stockholm Convention and national regulation completed and endorsed	Guidance document drafted for sampling of online and offline equipment, handling storage and disposal of PCB containing waste and equipment and discussed in one dedicated workshop. Using the guidance material, at least one training session covering 50 operators of the electric sector implemented One training session covering at least 25 officers from the relevant ministries and research institutions carried out. Procedural and guidance documents for environmental authorities on Stockholm and Basel convention, EU regulation on POPs and PCBs, BAT and BEP for PCB treatment and disposal operation drafted and discussed in a dedicated workshop Dissemination of project objectives and midterm results through establishment of a website, broadcasting, workshops, with enhancement on gender related issues Gender Dimension study completed	Set of guidance documents on Environmentally Sound Management (ESM) of PCBs 2 Training workshops on ESM of PCBs Consultation workshop on the set of Guidance Document Study tour to FYR Macedonia Procedure for contracting a National Consultant for the gender mainstreaming study commenced	On-target
Output 1.2. Enforcement of the Montenegro law on PCB management strengthened			
Indicators	**Mid-Term Targets**	**Status at MTR**	**Rating**
Level of enforcement of the Montenegro's law on PCB management strengthened, measured through the number of owners of electrical equipment complying with the regulation Gender Dimension in the context of PCBs issue in Montenegro completed, strategies for better Gender Mainstreaming in POPs related activities identified	Gap analysis with special reference to enforcement needs completed at mid-term Technical assistance to the environmental authorities on the enforcement of the law and technical regulation related to PCBs delivered through specialized trainings and joint participation of project staff and government representatives in at least 5 site inspections followed by assessment of the cases Company-wide PCB management plans drafted by participating companies	Rulebook on methods for testing hazardous waste (adopted on 7 June 2018) Rulebook on handling the waste and equipment containing PCBs (adopted on 17 October 2018) Decree on the parameters and conditions for waste storage (in the process towards adoption) A set of checklists for the Environmental Inspectors developed 4 site inspections conducted of the PCB storage facilities at Uniprom-KAP and CEDIS	On target

[6] The indicator rating key: Green = Achieved, Yellow = On target to be achieved, Red = Not on target to be achieved

Output 1.1: A training workshop was organized on 8-9 October 2017 with participation of 18 trainees (7 women, 11 men) from the governmental environmental protection and inspection authorities, accredited laboratories for sampling and analysis and the Ministry of Sustainable Development and Tourism (Directorate for Environmental Protection, Directorate for Waste and Communal Affairs). The training covered several phases of a PCB management cycle – identification, sampling and analysis of potentially contaminated equipment, safe temporary storage, transportation and final disposal of PCBs.

A set of guidance documents on Environmentally Sound Management of PCBs was developed with incorporated requirements from the Stockholm and Basel conventions, EU regulations on POPs and PCBs management, and international guiding elements on Best Available Technology (BAT) and Best Environmental Practices (BEP) for PCB treatment and disposal. The set consists of the following 7 parts:

1. PCBs - Chemical properties, application and impact on human health and environment
2. Identification of PCBs
3. Use and maintenance of PCB-containing equipment, gradual shutdown, decommissioning and replacement
4. Packing and storage of PCB-containing waste
5. Transport of PCB waste
6. Emergency and security procedures
7. Disposal and decontamination of PCB-containing equipment and waste

Before release, the documents were circulated for review and comments to the key project partners and beneficiaries, including those from the private sector. A consultation workshop on the set of guidance documents was held on 14 February 2018 with 22 representatives (10 women, 12 men) of the environmental authorities and owners of potentially contaminated equipment. The stakeholder's comments and suggestions were taken into account for completion of the Document.

On 14 November 2018, a training was organized on the waste management procedures for representatives from the local subcontractor, company Hemosan and from the owners of the PCB-containing equipment and waste - Uniprom-KAP and CEDIS. The session consisted of theoretical and practical parts on modern ways of comprehensively managing PCBs in line with the existing international standards. Total 12 workers from the three companies were trained, (2 women, 10 men).

On 4 December 2018, the project organized a training workshop for the representatives of relevant institutions, and students from the University Donja Gorica who study chemistry and environment protection in their curriculum. The purpose of the training was to inform on project's progress and on specific phases of sound PCB management in more details. The training elaborated on specific issues described in the set of guidance documents.

In total, 24 participants were involved: 5 from the industry, 7 from the environmental authorities, and 12 students. There was an impressive gender balance as 16 women and 8 men participated in this training.

A study tour to FYR Macedonia[7] was organized on 8 – 11 May 2018 for 14 participants (6 women, 8 men) with equal representation (7 participants each) of the industry and the environmental authorities. The objective of the study tour was to observe results and actions taken of a similar project that had been implemented by the Electric Power Company of Macedonia as the major owner of the PCB equipment.

A procedure commenced for contracting a national consultant to conduct a study on gender dimension on POPs in Montenegro. The study is expected to address understanding of exposure of women, men and infants to POPs with specific reference to PCB in industrial settings and the environment, conduct mapping of potential exposure sources, and will identify opportunities for a gender mainstreaming.

Output 1.2: The project has supported development of the following legislative acts:

- Rulebook on methods for testing hazardous waste (adopted on 7 June 2018);
- Rulebook on handling the waste and equipment containing PCBs (adopted on 17 October 2018);
- Decree on the parameters and conditions for waste storage (draft in the process towards adoption);

The first rulebook was developed to help with the national PCB inventory process through introducing the use of the fast screening method for testing of PCB oils[8].

A set of checklists was developed for the Environmental Inspection to be used during site inspections for PCB-containing equipment and waste. The checklists will standardize the control function of environmental inspectors related to identification, operation, stocktaking, phasing out, packing, transportation, disposal of the PCB and will also ensure sustainable transfer of knowledge to new inspectors in case of personnel rotation.

Summary Assessment of Outcome 1: The set of guidance documents on ESM and related training workshops have substantially increased the national capacities of the environmental inspectors as well as operators from the two main PCB holders. The checklists developed for the environmental inspectors contributed to standardization of execution of the environmental inspections related to PCBs through on-the-job training.

The project was instrumental in supporting development of new legislative rulebooks. Adoption of the two new rulebooks finally triggered the implementation of PCB inventory (see achievements under Outcome 2 below).

The study tour to the FYR Macedonia group had discussions on the company's motive to participate in that similar project; the activities covered by the company regarding the treatment of the PCB-containing transformers; how did the project contribute towards enhancing the company's knowledge and capacities for sound PCB management; how did the project achievements enable the company to comply with the national regulation; how does the non-combustion disposal option suit the company's needs and the experience of the company related

[7] The officially recognized name the former Yugoslav Republic of Macedonia (FYROM) is used in reference to the study tour that was organized in 2018. In February 2019, the official name was changed to the Republic of North Macedonia.

[8] SW-846 Test Method 9078: Screening Test Method for Polychlorinated Biphenyls in Soil and SW-846 Test Method 9079: Screening Test Method for Polychlorinated Biphenyls in Transformer Oil

to the cooperation with the PCB treatment facility installed at company Rade Koncar; are there any tests on the PCB presence performed on the decontaminated transformers returned back in operation.

All this information was practically useful to structure Montenegrin approach in PCB management. Additionally, that existing regional PCB decontamination capacity was recommended by some of GEF Council members to be considered for treatment of cross-contaminated power equipment which is taken into account by this visit and the established South-South cooperation between the two countries.

Almost all planned activities have been already completed at the MTR stage with the exception of the PCB management plans for the two principal PCB holders. The preparation of the plans will commence upon completion of the national PCB inventory.

However, it must be recalled that one of the leading premises for the PCB project formulation was the low effectiveness of enforcement of the existing legislation on PCBs. The project so far has provided only limited assistance to the environmental inspection authorities to fulfil their duties. The Administration for Environmental Inspections plans to recruit a number of new inspectors and it is therefore necessary to train the inspectors specifically on enforcement of the requirements related to the PCB management plans and maintenance of PCB "logbooks". Although the Montenegrin legislation is well advanced and generally compliant with the international regulations (the Stockholm Convention and the EU directive on management of PCBs) and substantive progress has been achieved in updating the inventory of PCB waste (see below under Output 2.1), effectiveness of enforcement of the legislation is critical for the success of management and progress on PCB phase-out in Montenegro.

The progress towards achievement of the end-of-project targets under Outcome 1 is rated **Satisfactory (S).**

Table 5: Achievements at MTR for Outcome 2

Component/ Outcome 2: PCB Inventory, planning and establishment of public-private partnership			
Output 2.1. PCB inventory updated and completed with sampling and analysis of phased out and in-use equipment			
Indicators	**Mid-Term Targets**	**Status at MTR**	**Rating**
One consolidated country-wide PCB inventory updated and completed, with appropriate data of sampling dates and analysis results of phased out and in-use equipment	Preliminary survey carried out through sampling and analysis of at least 300 pieces of equipment at PPG stage. Inventory sampling activity plan for 3,000 equipment is well underway at mid-term point. Services for the sampling, analysis of this equipment and establishment of PCB inventory procured Sampling and analysis of at least 2,000 pieces of PCB suspected equipment carried out PCB containing equipment labelled and entered in a computerized database	3 LX 2000 Clor-n-Oil analysers procured 4,650 transformers and 1,358 capacitors sampled and analysed National PCB database for the inventory of PCBs commissioned and populated with data All sampled transformers labelled according to the results of the PCB content	Achieved
Output 2.2. PCB national management plan drafted and approved			
Indicators	**Mid-Term Targets**	**Status at MTR**	**Rating**
The PCB national management plan is drafted and approved	The national PCB management plan drafted First upgrade of the National PCB Management Plan at midterm based on preliminary inventory data Resulting one (1) individual PCB management plan drafted by participating companies at mid-term	National PCB Management Plan under preparation CEDIS started preparation of their PCB management plan Uniprom-KAP PCB management plan drafted but not completed	On-target
Output 2.3. Establishment of an innovative public-private partnership (PPP) for the management of PCB contaminated equipment and waste			
Indicators	**Mid-Term Targets**	**Status at MTR**	**Rating**
An innovative public-private partnership for the management of PCB contaminated equipment and waste is established and supports national PCB disposal/decontamination effort	A public / private partnership for management of PCB contaminated equipment and waste established to conduct the activities related to ESM system on PCBs (completed at mid- term) Business plan and sustainability plan for the public/private partnership drafted Appropriate level national communication on the PCB management plan ensured for better cooperation with the private sector	Not started Not started Not started	Not started

Output 2.1: There was a delay in the sampling of the electrical equipment due to the fact that the national legislation did not recognize the possibility to do fast-screening tests on PCB presence but allowed only for an expensive laboratory instrumental analysis by gas chromatography. In order to reduce the cost of the PCB analyses required for the inventory, the project assisted in the development of the Rulebook on Methods for Testing Hazardous Waste that introduced the use of the Clor-n-Oil for fast screening of the presence of PCBs. Adoption of the Rulebook in June 2018 prompted CEDIS to start with the sampling and testing process of their power equipment in addition to the work that has been conducted through the project.

The national inventory of PCB equipment and waste has been entrusted to the Ecotoxicological Research Center (Centar za ekotoksikologiško ispitivanje – CETI). The latter organization holds accreditation according to ISO/IEC 17025[9] for sampling and analysis of PCBs in transformer oil and various environmental matrices.

The contract with CETI envisages analysis of 4,000 samples and implies the use of fast screening tests as well as the use of a gas chromatographic (GC) method for confirmation of PCB contamination levels (contamination above 50 ppm is classified as PCB waste) and determination of PCB concentration in transformer oil and other matrices. During the visit of the MTR team, representatives of CETI confirmed that they have analyzed 4,650 samples of electrical equipment (transformers and capacitors) that included preliminary analyses by the fast screening method using the LX2000 Clor-N-Oil analyser. In case of positive results of the screening, about 1,167 confirmatory analyses were conducted by the GC technique. The total number of samples analysed up to the MTR stage has already surpassed the end-of-project target of 3,000 samples. Around 10% of the analysed samples had PCB content in the oil above 50 ppm which is generally in line with the Stockholm Convention's guidance on a rule-of-thumb in assessing the PCB equipment fleet from the overall population of such equipment available in a country.

The sampling of electrical equipment was relatively easy in the Uniprom-KAP factory since all the electrical equipment operated by Uniprom-KAP had been located within the premises of Uniprom-KAP. The analyses confirmed very high concentration (35,000 ppm and above) in about 40 pieces of equipment, accounting for an amount of 28.2 tonnes of PCB waste. The testing confirmed the original assumption about probability to find heavily PCB-contaminated transformers in the manufacturing industry.

The results of the analysis of samples taken from the Uniprom-KAP industrial plant resulted in collection of the following quantities of PCB waste:

- 88,140 tonnes of transformers;
- 52,684 tonnes of capacitors (707 pieces);
- 55,175 tonnes of transformer oil; and
- 23,744 tonnes of contaminated soil

The total quantity of PCB waste collected at Uniprom-KAP amounted to 219,743 tonnes and constituted a major part of the first shipment of PCB waste for ultimate disposal to France (see details below under Output 3.3).

[9] ISO/IEC 17025: General requirements for the competence of testing and calibration laboratories

At the time of the MTR mission, Uniprom-KAP had still in operation about 40 "special" transformers containing silicone oil with medium levels of PCB contamination that had been procured in 1970s - 1980s as pure PCB transformers. Following the announcement of the ban of the Aroclor PCB mixtures at the end of 1980s, the transformers were drained to a reservoir, rinsed with perchloroethylene and refilled with silicone oil that was used as the replacement dielectric fluid due to its high thermal stability. Due to the high level of initial PCB content these transformers remain contaminated with PCBs. Uniprom-KAP plans to decrease the level of PCB contamination in these "special" transformers through retrofilling[10].

The sampling of transformers owned by CEDIS was far more complicated since the latter company has an extensive network of power stations in the country and some transformers had been located in a mountainous terrain with difficult access. In order to speed up the process of the CEDIS electrical equipment sampling and analyses, UNDP contracted, in addition to CETI, the company Rade Koncar Service from Skopje for sampling and testing the transformer oil from 510 pole-mounted transformers. The contract was implemented in the period April to October 2018. CEDIS contracted the same company to test additional 1,664 transformers by its own financial resources (201,344 Euro) in the period October 2018 to August 2019. At the time of the MTR mission, there were reportedly about 150 outstanding CEDIS pole-mounted transformers that will be analyzed in the near future.

About 76% of the transformers owned by CEDIS were on-grid, with about 13% were reserve transformers and about 11% (289 pieces) were classified as waste transformers. Of the 289 waste transformers tested, 1 is PCBs and 11 are set for decontamination. About 4% of the total number of waste transformers contains PCBs. CEDIS plans to complete the sampling and testing of all its transformers by the end of 2019 in order to have the full picture about the status of PCB contamination of its electrical equipment.

An overview of sampling and analysis of CEDIS transformers is summarized in Table 5a below.

Table 5a: Status of the CEDIS transformers sampling and analysis (as of 31 August 2019)

	Transformers				
	Pole-mounted	**Ground**	**Reserve**	**Waste**	**Total**
Sampled	2,174	1,943	332	289	4,738
Potentially contaminated	208	591	93	31	923
Analysed	136	591	93	31	851
For decontamination	22	27	5	11	65
PCB transformers	-	2	-	1	3
Under examination	72	-	-	-	72

Output 2.2: Due to the incomplete data on PCB presence in Montenegro, the work on the National PCB Management plan has been postponed until the full data from the inventory process becomes available.

Upon initial consultations with the relevant authorities, CEDIS electric power distribution company has commenced the work on a draft PCB management plan. Further progress depends

[10] Retrofilling is a crude decontamination method that involves draining PCB-contaminated oil from a transformer and refilling it with a PCB-free insulating fluid. If this method is applied correctly, the residual PCB concentration in the new transformer fluid after retrofilling could be up to 10% of the original PCB contamination.

on the inventory of PCB equipment which has not been completed. Uniprom-KAP already has a draft PCB management plan but has also been waiting for the completion of their PCB inventory to update the plan.

Output 2.3: The Law on Public Private Partnership (PPP) in Montenegro has not been enacted yet and currently is in the process of public hearings. Once approved, the Law will establish a clear institutional framework for developing, procuring and implementing PPPs in Montenegro. Because of the uncertainty regarding the actual approval of the Law, the project team should consider and commence interim activities for achievement of the end-of-project targets.

Summary Assessment of Outcome 2: After the initial lag period caused by the legislative obstacles hindering use of the fast screening methods for testing of PCB contamination, the sampling and analyses had gathered a staggering pace in the period from April 2018 to August 2019. After 18 months the total number of samples analysed has already exceeded the original project target of 3,000 samples. This is a remarkable achievement given the fact that although the project developed procedures for sampling both online (active) and offline (disconnected) equipment and provided related training for the operators, the internal CEDIS procedures do not allow sampling of online transformers. Therefore, the sampling occurred at a rate determined by CEDIS yearly maintenance plans that allow for equipment to be temporarily disconnected and samples collected.

The fact that mid-way through the project the number of analyzed transformer oil samples has already outstripped the original final target is an achievement worth mentioning. The reason is that a majority of samples were taken from electrical equipment still in use and that sampling of the on-grid equipment is a complex task requiring a significant coordination effort (such as coordination with maintenance schedule of the equipment).

The development of the National PCB Management Plan and of the two corporate PCB management plans for the two principal PCB holders has been put on hold until completion of the PCB inventory. Although this means that the mid-term target has not been fully achieved, the evaluators have no doubts that the three PCB management plans will be developed by the 1st quarter of 2020 at the latest.

The work under Output 2.3 has not started due to the absence of the national law on PPP and on the fact that Montenegro has a limited number of private companies that could form a PPP for management of the PCB contaminated equipment. One option being considered is that PSC (with members both from the public and private sectors) can assume some specific functions of a future PPP initiative (such as coordination with the private sector, including on inventory and temporary storage opportunities before disposal; consultation and advisory support on financial and technical transition opportunities away from aging PCB equipment; information exchange on legal and safety requirements; national capacity building for handling and transport of PCB waste) and continue to lead implementation of the interventions initiated by the project beyond the project completion.

Based on the above findings, the progress towards achievement of the end-of-project targets under Outcome 2 is rated **Satisfactory (S)**

Table 6: Achievements at MTR for Outcome 3

Component/ Outcome 3: Environmentally sound management (ESM) of PCBs			
Output 3.1. Selected storage facilities upgraded for the safe storage of PCB equipment pending disposal or decontamination			
Indicators	**Mid-Term Targets**	**Status at MTR**	**Rating**
National PCB storage capacity, in terms of a mass of PCB equipment and waste that can be safely stored, of selected storage facilities in the country is available and up to international standards. Storage facilities are upgraded and monitored under the project for the safe storage of PCB equipment/oils/waste pending final disposal or decontamination procedures	Storage facilities for the temporary storage of PCB contaminated equipment are identified (to be completed at mid-term) Upgrade of safety and emergency response in selected storage facilities PPE equipment for personnel is available to ensure safe operations Monitoring over quality of storage over time is ensured by enforcement authorities	Technical design of a new storage at CEDIS Technical documentation for upgrade of the existing PCB storage at Uniprom-KAP 4 site monitoring visits by Environmental Inspectors	On target
Output 3.2 Identification, assessment and procurement of environmentally sound PCBs disposal technologies or services			
Indicators	**Mid-Term Targets**	**Status at MTR**	**Rating**
Documentary and direct evidence that environmentally sound technologies or services for PCBs disposal/dehalogenation have been identified, assessed and procured	Identification and technical-economic feasibility analysis of disposal options based on the amount of pure and low-concentration PCBs identified (to be completed at mid-term) Drafting of TORs for the procurement of PCBs disposal/decontamination service and equipment (to be completed at mid-term) EIA process over decontamination plants carried out if needed to enable technology to operate locally (to be completed at midterm)	Not started Not started Not started	Not started
Outcome 3.3. Equipment and waste containing or contaminated by PCB disposed or treated in an environmentally sound way			
Indicators	**Mid-Term Targets**	**Status at MTR**	**Rating**
Amount of equipment or waste containing or contaminated by PCB disposed in an environmental sound way	For pure PCBs, existing qualified service providers informed and invited and tender for hazardous waste handling The selected PCB decontamination technologies demonstrated in action as part of procurement activity for their reliability, environmental performance and compliance with national regulation, Stockholm and Basel conventions' requirements (to be completed at mid-term) Associated sub-contracts for export of pure PCB waste and decontamination of low-concentrated in place, and pre-bid conferences for interested bidders	Tender for final disposal of PCB waste with high concentration Shipment of 248 tonnes of highly contaminated PCB waste to an accredited HTI disposal facility in France Certificates of final disposal of 140 tonnes of PCB waste obtained from HTI	On target

Output 3:1: For a new PCB storage at CEDIS, the project funded preparation of the technical documentation principal design according to the requirements of national and international standards. The documentation was prepared by the architectural designer 'Arhiplan CG' doo Podgorica. and independent technical revision of the same documentation was performed by another company specialized in technical supervision 'Urbi.Pro' doo Podgorica. Moreover, PSC approved to cover about 30% of the construction costs of the storage from the project budget.

UNDP and CEDIS could not sign a contract for the construction of the storage on the principle of co-financing since in such case the entire investment (including the 70% share by CEDIS) would be considered by the CEDIS's financial department as a donation, and due to the possibility of CEDIS to receive a partial investment refund from the National Energy Regulatory Agency In order to mitigate the situation, the last PSC meeting in July 2019 advised to break the construction into components and use the contribution from the project for one of the components, namely procurement of horizontal mechanization. The selection of a concrete component is pending on progress in the construction and dynamics of other components of the project, namely eventual placement of a mobile PCB dehalogenation unit. Until commissioning of the new storage, CEDIS continues to rent a storage space at Hemosan located in the port of Bar.

Inspectors from the Administration for Inspection Affairs conducted 4 inspections each at the current PCB storage facility in Uniprom-KAP (on the outskirts of Podgorica) as well as the entire hazardous waste storage of Hemosan, including the part that CEDIS rents for temporary depository of their electrical equipment disconnected from the grid. The inspectors spotted visible contamination of soil at Uniprom-KAP and suggested a site assessment to be conducted.

Technical documentation for upgrade of the existing PCB storage at Uniprom-KAP was completed but the upgrade itself (including enhanced safety and emergency response facilities) has not yet started. The site assessment of the Uniprom-KAP storage area by CETI in a consortium with Dekonta, an environmental service provider from the Czech republic, has commenced in early September already started and will be completed by mid-October 2019. The storage upgrade will start upon completion of the site assessment and remediation.

The evaluators visited both storage facilities and found decommissioned electrical equipment numbered and labelled by coloured stickers according to results of the analysis for PCB content: green label for equipment classified as PCB-free (with PCB content below 50 ppm,) red label for equipment classified as PCB-contaminated (with PCB contamination above 50 ppm) and yellow label for potential PCB waste in cases where the analysis of PCB content has not been completed.

Output 3.2: Implementation of this output is pending on completion of the national inventory of PCBs. Based on the completed inventory, the quantities of equipment with low to medium level of PCB contamination (up to 2,000 ppm) will be established that can be treated by the dehalogenation technology[11].

[11] PCB dehalogenation technology developed and patented by Sea Marconi, Italy, classified as the best available technique (BAT) for PCB decontaminaton of transformers both in service and those at end of life (Italian Ministry of the Environment, Min. Decree 29/01/2007 - O.J. No. 133 of 06/07/2007)

Once the quantities of low PCB-contaminated equipment are known, the Project Document envisages commissioning analysis of technical and economic feasibility of the following options:

- Procurement of the dehalogenation technology (stationary or mobile)
- Dehalogenation of low-contaminated electric equipment either through shipment to established facilities abroad or treatment in the country with a rented dehalogenation equipment;
- Drainage of the PCB-contaminated oil and shipment abroad for final disposal

Output 3.3: Tender for disposal of concentrated PCB waste was closed in June 2018 and the contract was awarded to the Greek company 'Polyeco S.A.' with experience from similar operations in the CEE/NIS region (Georgia, Kosovo) and worldwide. For all activities on packing/repacking (handling, oil pumping, draining of power equipment) of the PCB waste, Polyeco sub-contracted the local waste management company Hemosan.

The preparatory work was conducted in the period November - December 2018. During the packaging of PCB waste, all safety measures were followed in line with established international benchmarks, as follows:

- the needed UN-approved packages, labels, PPE, tools and equipment were delivered on site and the personnel responsible for the packing and draining activities was trained by Polyeco;

- the emergency equipment was readily available on site (absorbents, solvents, fire extinguishers);

- the site was divided into different zones, in line with PCB management guidelines established by the Basel convention on transboundary movement of hazardous wastes, separated by red and white plastic bands: contaminated zone (i.e. packing area, where packing/repacking and draining works take place); buffer zone (temporary storage of the packed drums and containers awaiting loading into the truck/sea container) and clean zone (storage of personal protection equipment (PPE), drum handling equipment and resting place and area where the trucks/sea containers are to be loaded with the packed PCB waste);

- all workers involved in the packing activities were provided with the personal protection equipment (PPE), namely overalls, masks, gloves, safety glasses.

After all waste in the amount of 248 tons had been packed, it was loaded into trucks for transportation. The packing and loading operations were completed in March 2019 in a satisfactory manner. The drivers of the transportation units possessed all the documents required for the transportation of hazardous waste and the transportation units were properly labelled in accordance with the global safety standards applied to surface transportation of hazardous waste, the Basel Convention's guidance materials as well as the Law on Transportation of Dangerous Goods (Official Gazette of Montenegro 33/14 and 13/18).

The 248 tons of priority concentrated PCB waste has been exported for final disposal to France (Tredi HTI plant). By the time of the MTR mission, certificates of final disposal of 140 tonnes of the PCB waste have been obtained from the HTI plant. The disposal is expected to be completed in in September 2019.

Summary assessment of Outcome 3: The above summary of findings shows a mixed picture of progress under this project component. The most visible achievement has been recorded for Output 3.3 where the first shipment of PCB waste constitutes about 35% of the end-of-project disposal target for the PCB equipment waste. Limited progress has been achieved under Output 3.1 on the technical design documents for construction of a new PCB storage for CEDIS and for upgrade of the existing PCB storage at Uniprom-KAP, respectively. The work on the technical and economic assessment of options for addressing the low-concentrated PCB waste under Output 3.2 has not started as it has reportedly been pending on completion of the PCB inventory.

Based on the above findings, the progress towards achievement of the end-of-project targets for Outcome 3 is rated **Moderately Satisfactory (MS).**

Table 7: Achievements at MTR for Outcome 4

Component/ Outcome 4: Knowledge Management and M&E

Output 4.1: Learning and knowledge management implemented			
Indicators	**Mid-Term Targets**	**Status at MTR**	**Rating**
Documentary evidence that project's results sustained and replicated through proper M&E and knowledge management actions	Inception activities carried out, project management structure implemented, KM system including project website established (to be completed in the 1st year of project implementation) Project reporting and planning established and implemented Midterm Evaluation and auditing activities carried out	Inception workshop organized on 26 May 2017 Three PSC meetings organized between December 2017 and July 2019 Project website established in 2018 Mid-term review conducted in June – September 2019	Achieved

Output 4.1: Details on implementation and rating of this output are provided below under the respective paragraphs Monitoring and Evaluation, Work planning as well as Reporting and communication.

Table 8: Achievements related for assessment towards the Project Objective

Project Objective: Comprehensive identification and disposal/treatment of PCB contaminated equipment and waste in the country			
Indicators	**Mid-Term Targets**	**Status at MTR**	**Rating**
National environmentally sound management (ESM) system of PCB chemicals and waste drafted, and implemented by 2020 700 tons of pure PCBs and 200 tons of low-concentrated PCBs/related waste are safely managed and disposed of/decontaminated by the end of the project, thus reducing global and local environment from exposure to these hazardous wastes	*Comprehensive national PCB inventory is mid-way through* *ESM guidance materials drafted and an initial training of PCB holders planned for and carried out* *The risk for the population surrounding plant and storage facilities containing PCBs is minimized thanks to safety measures preventing PCB release in the environment.*	Inventory of PCBs comissioned and 4,650 transformers and 1,358 capacitors sampled and analysed by a certified national laboratory Set of 7 guidance documents on Environmentally Sound Management (ESM) of PCBs developed and approved Work on safe temporary storage facilities at CEDIS and Uniprom-KAP commenced	On target
Amount of PCB equipment identified and listed in the PCB inventory and included in the national management plan	*At least 2,000 pieces of equipment tested to verify their PCB content, out of which PCB containing equipment is identified and labelled for future treatment or disposal.* *National PCB database established and maintained to help with priority decision-making*	4,650 transformers and 1,358 capacitors sampled and analysed, PCB-containing equipment identified, located and labelled National PCB database established as a web-based platform and populated with data from all sampled and analysed electrical equipment	Achieved
Amount of PCB contaminated equipment and waste treated or disposed of	*Based on final inventory amounts, temporary storage locations identified and upgraded to meet international standards* *Pure PCB waste is prepared for export to HTI plants for final disposal, and PCB contaminated oil is treated via rented or purchased PCB dehalogenation technology* *The most cost-effective PCB dehalogenation technology has been selected and rented/procured* *Appropriate EIA/SIA procedures for making the rented/procured technology operational are completed, and location to host the technology selected and confirmed*	Technical documentation for construction of a temporary PCB storage at CEDIS developed 248 tonnes of PCB-waste sent abroad for final disposal Appraisal of cost-effectiveness of the selected dehalogenation technology has not started	Not on target

Summary assessment of progress towards the Project Objective:

The Outcome ratings above are based on the premise that the project has to be completed within the officially approved implementation period, i.e. by the end of 2021. Hence the rating scores are given on the expectation whether the outcomes will or will not achieve their respective end-of-project targets by the end of the approved project period. The GEF guidelines for mid-term reviews require the evaluators to provide only one overall rating for each outcome and the overall objective. Rating at the level of outputs is indicated by the colour shading of the last column in Tables 4 – 8 hence no text ratings are given at the level of outputs.

From the above listed achievements under the three project substantive components it is obvious that the project has made remarkable progress towards establishing of foundations for environmentally sustainable management of PCBs in Montenegro by contributing to removal of several barriers to effective implementation of the country's obligations under the Stockholm Convention that had been identified at the PIF/PPG stage.

At the time of MTR, the flagship deliverable of the project has been the advanced national inventory of PCB-containing electrical equipment in the format of an on-line database platform. The PCB registry helps to substantially reduce the information gap on the extent of PCB presence in the country through provision of exact information in terms of quantities and location of PCB-containing equipment. Using the already established strong national capacity for PCB analysis, the inventory also provides accurate information on the extent and level of PCB contamination of the electrical equipment. It is also worth noting that the first national registry of PCB-containing equipment, also serves as a springboard for elaboration of a National Plan for PCB Management and corporate PCB management plans to be prepared by the two principal PCB owners in the country. Collectively, the PCB management plans will ensure gradual phase-out, decommissioning and disposal of PCB-contaminated electrical equipment in line with the Stockholm and Basel Conventions.

On the institutional side, the project has increased capacities on ESM of PCBs for a number of professionals from relevant governmental agencies, the national electricity distributing company as well as from the private sector industry through elaboration and adoption of a set of seven technical guidelines on various aspects of the PCB waste management cycle. These guidelines incorporate requirements from the Stockholm and Basel conventions, EU regulations on POPs/PCBs management, as well as international guiding elements on Best Available Technology (BAT) and Best Environmental Practices (BEP).

On the side of practical implementation of the ESM of PCBs, the project has successfully completed collection, packaging and export of 248 tonnes of contaminated PCB waste (contaminated equipment, transformer oil and contaminated soil) for ultimate disposal at a recognized HTI hazardous waste disposal facility in the EU. The amount sent for the final disposal constitutes about 35% of the end-of-project target for PCB disposal.

Despite the above listed achievements, there have been several shortcomings in the project implementation. Relatively slow progress was noted in construction of dedicated PCB storage facilities at the two principal PCB holders in Montenegro. For the national electricity distributing company (CEDIS), technical documentation was prepared for construction of a

brand-new PCB storage facility. Until this storage is constructed and commissioned for use, CEDIS will continue renting a temporary storage at the company Hemosan at the Port of Bar. For the privately-owned aluminium smelter (Uniprom-KAP), technical documentation for upgrade of the existing PCB storage was prepared. However, actual commencement of the storage upgrade works is pending on completion of the Uniprom-KAP site assessment for environmental pollution by hazardous waste.

The work on establishment of a public-private partnership that is proposed in the project to oversee the PCB management in the country in a medium to long term has not started yet due to the existing legislative gap, namely absence of the law on PPPs. The Government of Montenegro is currently in the process of drafting a new PPP legislation that is expected to define PPPs and set out a new institutional framework and procedures for the preparation and award of all types of PPPs. The new legislation is currently in the process of public discussion and comments have reportedly been filed from several national institutions suggesting improvement and harmonisation with other regulations, namely the Law on Public Procurement and the Law on State Administration.

The preparatory work on identification and technical-economic feasibility the PCB dehalogenation technology has not started either due to the delays in completion of the PCB inventory.

Based on the above, the progress towards achievement of the project objective is rated Moderately Satisfactory (MS).

Issues to be addressed by the end of the project

The formulation of the project was based mainly on a "soft" data that was obtained through a preliminary inventory of potentially PCB-contaminated equipment carried out in 2013 by the Administration for Inspection. This survey was not exhaustive and for most of the equipment listed in the inventory traceability was not ensured and did not follow with rigorous verification of the surveyed information. Based on these rough estimates, the project was formulated with the premise that at least 700 tonnes of PCB-contaminated electrical equipment and transformer oil as well as 200 tonnes of PCB-contaminated soil would be found through the national PCB stock taking. The progress with the inventory work of the PCB-contaminated electrical equipment and PCB waste suggests that the above expected PCB waste quantities in possession of the two principal PCB holders were overestimated.

The 2019 NIP update does not contain revised information on PCB and PCB-contaminated equipment throughout the country. The first and updated NIPs includes transformers and capacitors from "unknown owners", i.e. electrical equipment that used to be possessed by companies that had filed for bankruptcy and their assets had been frozen under the bankruptcy administration procedures (e.g. Complex of the former plant "Radoje Dakić" in Podgorica or Electrical Industry "Obod" in Cetinje,). CEDIS reported that due to some legal issues they are currently not authorized to sample and test the equipment under administration for PCB contents, however they are preparing a list of all transformers and capacitors from "unknown owners" and they will submit it to the PCB project team by the end of this year. The PCB

project should investigate options how to resolve this issue and include these transformers and capacitors for sampling and analysis on PCB contamination.

Furthermore, the 2019 NIP update also lists potentially PCB-contaminated equipment possessed by several companies such as the Railway Infrastructure of Montenegro, Adriatic Shipyard "Bijela", Coal Mine Pljevlja and the industrial complex Plants of 13 July. A large part of the equipment listed still has to be tested to ascertain whether the PCB content exceeds the Stockholm Convention limits. There is also electrical equipment potentially containing PCBs under possession of the Ministry of Defence and the latter has reportedly been compiling a list of such equipment for further investigation.

Last but not least, recently there have been emerging the so called "third party owners" of electrical equipment that could contain PCBs. Such equipment is located in apartment blocks that are under joint property (concurrent) ownership of a number of individual apartment owners. Similar to the equipment from the companies in administration, CEDIS has an obligation for maintenance of the concurrently owned transformers but does not have legal rights to sample and test this equipment for PCBs.

The summary of the PCB-related update from the recently approved NIP revision suggests that there are still sizeable numbers of potentially PCB-contaminated equipment where the PCB content has not yet been ascertained.

Moreover, PCBs in building materials such as caulks and sealants are a largely unrecognized source of contamination in the building environment. Although one of the five proposed measures in the 2014-2019 NIP called for establishment of a system for collecting data on use of PCBs in the industry of plastics, coatings, paints and varnishes, as well as paints in construction, no activities in this regard have been conducted to date. The second half of the previous century until the ban on use of PCBs at the end of 1980s was characterized by excessive use of PCBs as plasticizers in building materials. Numerous field and laboratory studies worldwide have demonstrated that PCBs from both interior and exterior caulking and paints used in building construction can be the source of elevated indoor PCB air concentrations at levels that exceed health-based PCB exposure guidelines for building occupants.

Reportedly, PCBs in open applications are responsible for one fifth of the global sources of PCB but make up at least 50% of the PCB emissions that humans are exposed to. In comparison to PCBs in closed applications, they are more easily released into the environment and therefore pose a significant risk to direct human exposure in daily life. Sampling and data analysis from the buildings can provide the basis for informed decision making about compliance with health-based exposure limits, even in cases of small numbers of samples taken. The health risks posed by PCB exposures, particularly among children, justify precautionary approaches to managing PCBs in building materials.

The Project Document envisaged establishment of a public-private partnership in compliance with the needs of the Government and PCB equipment owners for provision of services in the field of sampling of transformer oil and contaminated soil, planning/designing PCB waste handling/management infrastructure, transportation of hazardous waste, import/establishment

of PCB dehalogenation technologies. The added value of PPP will be a greater flexibility in procurement of required services and overall coordination of PCB management activities.

This intervention is expected to start with development of a business plan with sustainability considerations in support of the PPP approach. The plan should be verified and amended based on the experience gathered after one initial year of the project's activities.

Due to the complexity of the public discussion and subsequent parliamentary approval processes, it is difficult to predict whether the new law will be enacted within the implementation period of the PCB project and give thus the opportunity to conduct the planned work on this project sub-component in line with the new law. As discussed under Institutional sustainability, the protracted deficiency of the PPP legislation could be detrimental to the project's institutional and financial sustainability.

The innovative feature of this intervention combined with the protracted absence of PPP legislation and receding available time for the project implementation collectively create a serious apprehension related to attainability of this goal and suggest a need to explore alternative approaches.

An area of even bigger concern is the lack of progress on the technical and economic assessment of available options for decontamination of dielectric fluids with lower levels of PCB contamination that has not advanced as originally planned. According to the project design, it was assumed that the completed national inventory of PCB-contaminated equipment would provide required quantities of equipment and contamination levels that could trigger the technical and economic assessment work. However, due to the initial delays the national inventory is expected to be completed by the end of 2019, i.e. 24 months before the project completion date.

According to the project document, four possible scenarios will be considered for the technical and economic analysis, namely i) export of PCB-contaminated equipment and waste for incineration abroad, ii) procurement of a stationary dehalogenation facility, iii) short-term rental of a mobile dehalogenation unit, and iv) shipment of the contaminated equipment to the established dehalogenation facilities abroad for decontamination.

There is some experience with all above mentioned options in the region of Western Balkans. Under this project, the Montenegrin stakeholders got hands-on experience from the export of heavily contaminated PCB waste to a HTI facility in the EU. During the study tour in FYR Macedonia, they got information about operations of a stationary dehalogenation unit from 'Sea Marconi' that had been procured and installed at the Regional Eco Center of Rade Koncar Servis in Skopje under the GEF-funded project implemented by UNIDO. Moreover, there is a mobile dehalogenation plant operating in Serbia that had been acquired by the Power Company of Serbia (Elektroprivreda Srbije – EPS) under the EU pre-accession assistance (IPA) funding. There mobile plant is hosted by the Nikola Tesla Institute, Belgrade and has the capacity of 1,5 t / day of transformer oil with up to 0.10% (1000 ppm) of PCB content.

Reportedly, there are also other already existing or planned options for final disposal of low contaminated PCB oil in the region. Cement plants in Serbia have permission to use transformer mineral oil with PCB content up to 50 ppm as fuel. Moreover, there is a plan for

construction of a waste incinerator and landfill gas plant at Vinča, outside Belgrade that will be capable of PCB final disposal. However, the approval process for the plant financed by EBRD has been delayed due to some concerns about compatibility of the new plant with the new EU pollution control standards approved in June 2019.

The evaluators have no doubts that the technical and economic appraisal of different scenarios for destruction and/or final disposal of low-concentrated PCB waste envisaged within the Montenegro PCB project will be a complex exercise that will take into account multiple parameters, namely the country needs, nature and quantity of the PCB waste streams, prevailing economic and market conditions, as well as availability of the PCB dehalogenation technology and other PCB ultimate disposal options in the neighboring countries (Serbia and the North Macedonia).
The reason for concerns is the delayed start of this sub-component and the time remaining for its implementation in the remaining period until the end of the project. According to reports from the PCB management project in Northern Macedonia, the entire process of disposal of PCB waste by the dehalogenation technology including preparation of the ToR, selection of the technology provider, procurement and installation of the equipment and finally treatment of the transformer oil took 22-24 months.

Secondly, a similar technical-economic assessment was conducted under the project on ESM of PCBs in Serbia that has been implemented by UNIDO since 2014. Again, according to the results of the assessment, the required time period for procurement of a dehalogenation plant from the point of decision-making to commissioning of the plant including tender, contracting, design, procurement, production, delivery, assembly, commissioning and performance demonstration is estimated to be around 2 years. In addition, the time required to obtain all necessary permits from national authorities (construction, utilities, EIA etc.) is uncertain[12].

Since the remaining project period is about 24 months, the fact that the technical and economic analysis of available technology options for environmentally sound disposal in Montenegro has not started, there is a risk that eventual procurement and commissioning of a dehalogenation unit and subsequent treatment of PCB wastes might not be feasible within the project implementation period.

The list of the technologies proposed for consideration for low PCB-contaminated oil under the Montenegro project that includes export to HTI facilities abroad and treatment by a dehalogenation unit (stationary or mobile). Export of equipment containing PCB oil is deemed to be the most expensive since it requires the owners to procure new equipment that significantly increase the total costs of the final disposal. Treatment by a dehalogenation technology is deemed to be a more cost-effective option but entailing the time limitations described above.

It appears that the retrofilling technique had not been proposed for consideration by the Montenegro PCB project, although this option is known to significantly reduce costs of PCB-contaminated oil export scenarios in case of PCB concentrations up to 500 ppm. Furthermore, the retrofilling practice could be particularly useful when it comes to electrical equipment with

[12] Based on an informal communication with UNIDO Project Manager of the PCB project.in Serbia

specific operational requirements (such as high-power transformers) that command high investment costs.

The retrofilling technique is being considered by the management of Uniprom-KAP as an option for replacement of the PCB-contaminated synthetic oil from the special transformers owned by the company and keeping thus the equipment in operation. However, it must be emphasized that application of the retrofilling technique in case of higher PCB contaminations would have to be repeated several times in order to reduce the PCB concentration below 50 ppm. Consequently, this operation would generate increased quantities of PCB-contaminated dielectric fluid and will have to be taken into considerations about suitability of retrofilling and the technical and economic assessment of alternatives to total replacement of PCB-transformers at Uniprom-KAP. “

It is obvious from the discussion above that the identification, assessment and procurement of a cost-effective and environmentally sound PCBs disposal technology or service will be a relatively complex task that will require substantive amount of time for completion. Therefore, it is urgent to commence the preparatory work (e.g. recruitment of experts) for the technical and economic analysis as soon as possible.

Project Implementation and Adaptive Management Arrangements

This section of the MTR report provides assessment of the seven components of the project implementation and adaptive management, namely management arrangements, work planning, finance and co-finance, project-level monitoring and evaluation, management of risks, stakeholder engagement, as well as reporting and communications.

Management arrangements

The PCB project is being implemented by the UNDP Country Office (CO) in Montenegro using the Direct Implementation Modality (DIM). The decision to use the DIM approach was taken in line with the 2006 SBAA, namely to the fact that the capacity of the Government to formulate and implement development interventions in the area of hazardous waste management had still been developing. Therefore, DIM was considered optimal for meticulous implementation of the project combined with elements of systematic national capacity development of relevant stakeholders.

UNDP in Montenegro appears to have all the requisite capacities needed for DIM, namely a thorough understanding of the country’s needs and capabilities; a strong reputation with national and international partners, as well as proven capacities in logistics, recruitment, procurement, financial management, and reporting.

The Project Management Unit (PMU) has been established and located at the UN Eco House in Podgorica. PMU has responsibilities for the day-to-day running of the project, including overall coordination, planning, management, implementation, monitoring & evaluation and reporting of all project activities.

The Project Steering Committee (PSC) has been established to oversee the project implementation, provide overall strategic policy and management direction and play a critical

role to review project progress, make recommendations and approve annual project work and budget plans.

The project's Inception Workshop (IW) was conducted on 26 May 2017, i.e. five months after the official starting date of the project. Although IW had been planned earlier, it was delayed several times due to institutional changes in the Ministry of Sustainable Development and Tourism that occurred at the beginning of 2017.

The Inception Workshop (IW) established PSC with membership of the representatives from Ministry of Sustainable Development and Tourism, Ministry of Economy, Ministry of Finance, Ministry of the Interior, Ministry of Transport and Maritime Affairs, companies Uniprom-KAP and CEDIS, and UNDP. After IW, there were 3 PSC meetings, in December 2017, in June 2018, and in July 2019, respectively. There was PSC meeting scheduled in December 2018 but could not be organized since there were not enough PSC members available, hence PSC was organized through exchange of e-mails.

At the 5th PSC meeting held on 10 July 2019, the PSC members discussed effectiveness of convening of the PSC meetings. In order to make the PSC meetings more focused and operational, they decided to reduce the number of PSC members in comparison with the PSC definition in the original Project Document. Consequently, PSC in the following period will consist only of representatives of the MoSDT, CEDIS, Uniprom-KAP and UNDP. Based on the review of the Minutes of all the PSC meetings, the MTR team considers that the PSC has adequately exercised both the supervisory and guidance functions to the project.

The MTR team considers that the established managerial arrangements and frequency of PSC meetings are adequate for the size and level of complexity of the project. Therefore, **the management arrangement component is rated Highly Satisfactory (HS).**

Work planning

In consultation with the relevant stakeholders, PMU prepares results-based Annual Work Plans (AWPs) with the planned activities and related indicative timeframe under each project output for the coming year. AWPs are presented to PSC meetings for discussion and approval.

The evaluators reviewed Annual Work Plans (AWPs) for the years 2017, 2018 and 2019 and found them realistic with sufficiently detailed narrative description of planned interventions. However, none of the three AWPs contained information on financial inputs earmarked for each of the planned activities. This practice appears to deviate from the standard UNDP AWP template. Although the PSC minutes proved that some financial inputs were discussed at PSC meetings, this discussion usually occurred only for financial inputs and activities that were of interest to one or more PSC members. Systematic inclusion of allocated financial inputs in line with the standard UNDP AWP format would give PSC members better insight into the project implementation and increase thus the transparency of the annual work planning.

The MTR team rates the project work planning **Satisfactory (S).**

Monitoring and evaluation

The Project Document states that the project performance monitoring and evaluation will be conducted at several levels in line with the UNDP Programme and Operations Policies and Procedures (POPP) and the UNDP Evaluation Policy. The monitoring is provided in the first instance by PMU and in the second instance by the bi-annual PSC meetings. However, the evaluators noted that there was no systematic compilation of progress data on the output and outcome indicators as agreed in the project results framework.

In addition, the Project Manager and the UNDP-GEF Regional Technical Advisor compile on annual basis the GEF Project Implementation Reports (PIRs) that cover the reporting period from July (previous year) to June (current year) for each year of project implementation. Two PIRs have been provided so far, covering the periods July 2017-June 2018 and July 2018-June 2019, respectively. The evaluators found both PIRs in line with the standard GEF PIR format and with one exception (see Risk management below) to contain adequate level of details in narrative descriptions of achievements during the reporting period as well as justified ratings of progress in project implementation and of overall progress towards the project development objective.

Although the independent mid-term review process is required to begin after the second PIR has been submitted to the GEF, the MTR was actually initiated few months earlier with the intention to complete the MTR report well in advance of the required submission to GEF (i.e. in the same year as the 3rd PIR). The Terms of Reference, the MTR process and the required outline of the MTR report follow the standard templates and guidance for GEF-financed projects available on the UNDP Evaluation Resource Centre (ERC). The MTR team is composed of one International Consultant and one National Consultant. Both consultants appointed by the commissioning unit to undertake the MTR assignment are independent from the organizations that had been involved in the designing, executing or advising on the project.

Based on the above, the monitoring and evaluation of the project is rated **Highly Satisfactory (S).**

Identification and management of risks

The project document contains a risk matrix composed of the risk description and type, assessment of risk impacts and probability, related mitigation measures, as well as owners of each identified risk. The last column of the matrix contains assessment of the risk status that is required to be periodically re-assessed.

The evaluators consider the initial identification of risks and mitigation measures reasonable and sufficiently detailed as the matrix contains a variety of project risk types such as strategic, organizational, financial, environmental and social risks. No risk was identified in relation to the accomplishment of the co-financing that had been pledged at the project inception phase.

However, as to the reporting of risks, a periodic re-assessment of the identified risks is recorded in the reports in the UNDP Atlas that are prepared by PMU. However, there were no risks reported under the paragraph Critical Risk Management in the annual project implementation reports (PIRs) prepared jointly by PMU and RTA. Critical risk management is a standard part

of the annual PIRs and periodic re-assessment of a risk management plan by both PMU and RTA is fundamental to the project's proper functioning and success.

A majority of the risks identified at the project inception did not fall into the critical risk category defined by rating of a risk impact and probability. Despite the lack of progress on the technical-economic feasibility analysis of disposal options (as reported under the Output 3.2 in Table 6), the risk related to the selection of technologies for disposal of PCB waste has not been considered critical. A risk related to lack of future management of PCBs in the country due to the absence of the PPP law (reported under the Output 2.3 in Table 5) has not been even identified. There is a room for improvement of risk management in order to develop timely and effective risk mitigation measures.

Based on the above, the MTR team rates the identification and management of risks as **Marginally Unsatisfactory (MU).**

Finance and co-finance

The tables below provide a summary of resources allocation for the project and of level of disbursement of the GEF grant funds as well as the estimated actual amount of co-finance up to MTR.

Table 9 below displays breakdown of the GEF project grant disbursements into the project components.

Table 9: Allocation and disbursement of GEF funds (as of 31 August 2019)

	Budgeted (US$)	**Disbursed (US$)**				
Project Component	**2016-2021**	**2017**	**2018**	**2019**	**2017-2019**	**%**
Capacity Strengthening	283,000	38,142.76	45,426.86	17,313.21	100,882.83	35.65
PCB Inventory	350,000	88,475.95	120,687.59	45,095.83	254,259.37	72.65
ESM of PCB	2,550,000	13,859.55	389,527.29	161,576.27	564,963.11	22.16
Monitoring & Evaluation	150,350	0.00	9,131.34	19,428.21	28,559.55	19.00
Project Management	216,650	26,423.55	27,107.88	7,231.76	60,763.19	28.05
Project Total	**3,550,000**	**166,901.81**	**591,880.96**	**250,645.28**	**1,009,428.05**	**28.43**

The financial data in Table 8 show that as of 31 August 2019 the total disbursement of GEF grant at the MTR stage stands at US$ 1,009,428.05 that gives the rate of implementation of the GEF grant 28.43%. As the project has already entered the second half of the implementation period, the outstanding balance of US$ 2,540,571.95 represents a substantial budget available for the remaining 28 months of the project implementation period.

The rates of implementation for the individual project components reflect the achieved progress towards the end-of-project targets described above (see Tables 4-7 and related text). The relatively high implementation rate for the PCB inventory (Component 2, 72.65%) reflects the fact that the number of the samples analysed for PCB contents has exceeded the end-of-project target and that the work on completion of the PCB inventory is in the final stages. The relatively low rate of implementation for ESM of PCBs (Component 3, 22.16%) exhibits the reality that

the project has addressed only about 35% of the planned amount of PCB waste (248 tonnes out of the planned 700 tonnes) and that the assistance to the construction/upgrade of the two PCB storage facilities has barely commenced. The low implementation rate for the capacity strengthening (Component 1, 35.65%) suggests that the mid-term targets for this component could have been underestimated. Overall, the financial data from Table 14 clearly highlight the need to significantly increase the rate of implementation for the remaining period of the project.

The project Combined Delivery Reports (CDRs) and budget revision reports indicate strong control over the budget by the project management and that the budget revisions are being made to best suit the project needs while aligning with the GEF budgeting guidelines.

The co-financing commitment that the Government and PCB holders made at the project inception (confirmed by means of official co-financing letters provided to PMU) is considered an important indicator to assess the country's ownership of the project.

Table 10 below summarizes data on co-finance by source.

Table 10: Allocation of resources for the project by funding source (in US$)

Financing by source	At Inception	2017	2018	2019	Total MTR	%
GEF	**3,500,000**	**156,893**	**591,881**	**250,645**	**999,419**	28.55
UNDP	**50,000**	**10,009**	**10,050**	**4,117**	**24,176**	48.35
CEDIS in-cash	**11,176,296**	**1,593,949**	**2,469,063**	**1,821,890**[13]	**5,884,902**	52.66
CEDIS in-kind	**975,555**	**22,600**	**24,026**	**165,600**	**212,226**	21.75
Uniprom-KAP in-cash	**6,728,840**	**1,019,650**	**1,271,800**	-	**2,291,450**	34.05
Uniprom-KAP in-kind	**673,000**	**20,550**	**20,550**	-	**41,100**	6.11
MoSDT in-kind	**200,000**	-	-	-	-	0
Total Co-financing	**19,803,691**	**2,666,758**	**3,795,489**	**1,991,607**	**8,453,854**	42.69
Total Project	**23,303,691**	**2,823,651**	**4,387,370**	**2,242,252**	**9,453,273**	40.57

Table 11 below shows breakdown of the co-financing by purpose.

Table 11: Allocation and realization of the planned co-financing by purpose

Source	Type	Amount (US$)			Purpose
		Pledged	Realized	%	
MoSDT	In -kind	200,000	-		Legal support to PCB issues
CEDIS[14]	In -kind	975,555	212,226	21.75	Office space, staff participating in project activities
	Cash	2,070,212	383,309	18.52	Sampling and analysis of dielectric oil, including costs related to the loss of electricity production, environmental monitoring
	Cash	348,098	316,240	90.85	Storage areas and buildings (for hosting PCB decontamination units) and future CAPEX Storage
	Cash	8,757,986	5,072,328	57.92	Replacement and maintenance of PCB transformers, pending their disposal; decontamination of PCB contaminated transformers; upgrading of storage facilities and clean-up of contaminated areas

[13] Planned co-financing for 2019.
[14] The CEDIS co-financing report is prepared on the basis of the Procurement Report submitted to CEDIS by the Ministry of Finance - Public Procurement Directorate.

	Total	**12,351,851**	**5,984,103**	**48.45**	
Uniprom-KAP	In-kind	673,000	41,100	6.11	Removal, storage and re-installation of equipment
	Cash	4,460,340	1,648,250	36.95	Replacement of PCB equipment
	Cash	2,268,500	602,100	26.54	Maintenance of equipment throughout project duration
	Total	**7,401,840**	**2,291,450**	**30.96**	
UNDP	Cash	50,000	24,175	48.35	Project management

Data displayed in Tables 10 and 11 indicates that the total co-financing at the MTR stage stands at US$ 8,453,854 that is 42.69% of the co-financing that had been pledged by the core stakeholders at the project inception. Table 11 shows that the realized co-financing amounts by CEDIS and Uniprom-KAP have reached 48.45% for CEDIS (including the indicative figures for 2019) and 30.96% for Uniprom-KAP.

The updated information on actually realized co-financing contributions shows that the project has been successful at mobilizing substantive funds from the national counterparts. Furthermore, the realized co-financing suggests that the initial high level of commitment and project ownership by the two PCB holders has been maintained throughout the project implementation up to date.

The actual levels of co-financing have been confirmed annually by official co-financing letters sent by CEDIS and Uniprom-KAP to UNDP. The confirmed co-financing includes both in-cash and in-kind contributions by the two companies. The Project Document identifies difficulties related to the accounting of the in-kind support as a risk for the periodic assessment of the co-financing (although this risk was not included in the initial project risk matrix). The Project Document further stipulates that the above risk will be mitigated by clearly establishing accounting mechanisms and rules for the in-kind co-financing at inception. However, there is no indication that such rules had been established. Consequently, it is supposed that the relative low amounts on in-kind co-financing reported by CEDIS and KAP and absence of in-kind co-financing data from MoSDT indicate that not all in-kind co-financing has been properly calculated and reported to PMU.

Apart from the above challenges related to the in-kind co-financing, the evaluators did not find any serious issues related to the financial management of the project and consider the current financial controls for disbursement of the GEF and UNDP funds sufficient and that the project finances have been managed well by the implementing partner.

The rating for finance and co-finance component is **Satisfactory (S).**

Stakeholder engagement

The original Project Document presents a stakeholder analysis through a table including the stakeholders' names and their respective roles. However, this list is rather generic and does not comprehend the differing positions of the identified stakeholders, namely the distinction between core (involved) and supporting or peripheral stakeholders.

MoSDT, CEDIS and Uniprom.KAP as the primary (core) stakeholders had been involved during the design phase of the project through baseline surveys and consultation workshops/meetings. The extensive core stakeholder engagement has been continued during the project implementation to date, mainly throughout the biannual PSC meetings. The initial

intent to involve also supporting stakeholders through their membership in PSC proved to be hindering the effectiveness of PSC functionality. Therefore, at the 5th PSC meeting in July 2019 the PSC membership had been reduced to include only representatives of the core stakeholders. From the project inception, there have been no links to peripheral stakeholders (such as NGOs, academia, the public at large) with the exception of an initial invitation of the NGO Ozon to participate on PSC that was declined. The decision to reduce the PSC membership in reality means that the project has no links to supporting stakeholders (such as other ministries and governmental agencies).

The evaluators concluded that involvement of the primary stakeholders in the project implementation has been strong as indicated by the knowledge and awareness by all interviewed representatives of MoSDT, CEDIS and Uniprom-KAP of the project goals and objectives, the implementation status of the project, its achievements so far as well as remaining challenges. However, lack of connections to secondary (supporting and peripheral stakeholders) that are indirectly affected by the project activities could limit the general support for the intervention, especially in cases advocacy or policy change are needed.

Based on interviews conducted during the MTR mission, there are few possibilities for linking with secondary stakeholders. One example could be connecting with the work of the Montenegrin Institute of Public Health (Institut za Javno Zdravlje Crne Gore – IJZ). Since April 2019, IZJ has been implementing a national project on impact of selected pollutants on human health. The essence of this project will be the 1st epidemiological study of this kind conducted in Montenegro on impact heavy metals, polycyclic aromatic hydrocarbons (PAHs) and PCBs on human health. IJZ has accreditation for this type of research including laboratory analysis for which it possesses a well-equipped and accredited laboratory as well as skilled personnel.

Through the Centre for Promotion of Health, IJZ has been engaged in regular communication with the public at large by organizing workshops and producing posters, videos and other PR materials. The PCB subcomponent of the IJZ epidemiological study could be linked with the PCB project e.g. through sampling either workers of the two PCB holders that handle the PCB waste or population living in the neighbourhood of the PCB storage facilities (e.g. Roma population, women). Through this link the PCB project could improve its communication with the public at large and also strengthen the mainstreaming component.

Based on the above, the evaluators rate the stakeholder engagement in the project formulation and implementation as **Satisfactory (S).**

Reporting and communication

Reporting during project implementation helps to identify potential issues that may endanger the project's capacity to achieve its development objectives. Reporting also helps to make informed decisions, provides valuable information for project evaluation, and provides lessons to be learnt for future projects. Effective and timely communication between the PMU and the core stakeholders is a key element in that respect.

In addition to the review of project-related reports, the MTR team obtained through interviews information about numerous meetings PMU held with the project core stakeholders. The

evaluators also reviewed the project web page that has been operational since 2018. It appears that reporting and communication within the core stakeholder group has been extensive, particularly in the first year of the implementation when some of the core stakeholders did not show full commitment to the project interventions. However, there is a room for improvement in communication outside the group of core stakeholders. Lack of effective communication with secondary stakeholder groups could result in relatively low level of public awareness and understanding of the PCB management-related issues as well as of health and environmental impacts of PCBs. This could be detrimental to the social and environmental impact assessments in case the project will engage in the establishment of a PCB dehalogenation facility or rental of PCB dehalogenation services for decontamination of low-contaminated PCB oil and for PCB-polluted site assessments. In addition to all the above said, during the project implementation a PCB project website (https://pcbmontenegro.me) was designed and put online and it is being used for dissemination of information about the project objectives and project results, including for publishing the PCB guidance materials. During the packaging and export of 1st shipment of PCB waste, the national TV broadcaster filmed the activities and this appeared in central news on national TV and some programme features on ecology and environmental issues in Montenegro.

Therefore, the rating for the reporting and communication component **is Satisfactory (S).**

The overall rating for the project implementation and adaptive management is based on aggregation of the above ratings for individual components above. Two of the 7 components received the rating Highly Satisfactory (HS), four components are rated Satisfactory (S) and one component got rated Marginally Unsatisfactory (MU). Therefore, the overall aggregated rating of the project implementation and adaptive management is **Satisfactory (S).**

Mainstreaming

During the implementation so far, the project team made a concerted effort for ensuring and recording women's involvement in the project, namely participation of women in the project trainings. The statistics about the participants in the training component at the MTR stage show a very good gender balance of the trainees.

More interventions on mainstreaming will be possible after the completion of the Study on the Gender Dimension on POPs issue in Montenegro. Preparatory work for contracting a national consultant that just started at the time of MTR and will be completed in the 1st quarter of 2020.

Sustainability

The sustainability is defined as continuation of benefits from an intervention after the development assistance has been completed. The important aspect here is the sustainability of results, not necessarily sustainability of the activities that had produced the results. The assessment of sustainability requires evaluation of risks that may affect the continuation of the project results.

In general, the activities supported by the project have the potential to ensure long-term sustainability but with serious challenges described in the text below.

Financial sustainability

Both CEDIS and Uniprom-KAP have made sizeable co-financing commitments to the project and a sizeable portion of the commitments has been realized until the MTR stage (see Tables 9 and 10 above). While the CEDIS continued commitment due to the majority ownership by the Government appears to be secured, the situation could be different for Uniprom-KAP. Due to not fully resolved ownership issues of the company, the scope of the World Bank project on site remediation has been recently downsized and instead of financing remediation works for two selected hazardous waste sites, the remaining activities to be financed from the loan will be the preparation of design and bidding documents and technical assistance. The reduction of financial support from the World Bank loan for the site remediation coupled with the current difficult situation on the aluminium markets (expensive production inputs, primarily the electricity and raw materials, in combination of difficulties related to low trading prices of aluminium product outputs) could under certain conditions limit the company's co-financing commitments to the PCB project.

Financial sustainability of the project is rated **Moderately Satisfactory (MS).**

Socio-economic sustainability

Commitment to ESM of PCBs and prevention of environmental pollution and adverse health impacts are the main issues for socio-economic sustainability. Insufficient communication with the wider circle of stakeholders and lack of understanding of PCB environmental and health effects by the public at large can cause challenges for acceptance and operation of a dehalogenation facility for low PCB-contaminated waste in case a decision is taken to follow this route.

Socio-economic sustainability of the project is rated **Moderately Satisfactory (MS).**

Institutional framework and governance sustainability

The work under the project is aligned with the key governmental regulatory agencies and the two major PCB holders in the country. Training provided to a number of inspectors and operators from the leading national institutions and the private sector has strengthened the already existing institutional base in the country. This together with the PCB inventory constitutes a robust foundation for good governance of the PCB management in medium to long term.

However, the real institutional sustainability will be achieved only through establishment of an innovative public-private partnership for the management of PCB-contaminated equipment and waste in support of the national effort to introduce ESM of PCBs in the country (to be established under Output 2.3.). This is expected to put in place various financial mechanisms to ensure continuous decontamination of the in-service PCB-containing equipment and disposal of the highly contaminated PCB waste in line with the obligations of the Stockholm Convention. Unfortunately, the work on this output has not started yet due to absence of the law on PPPs (as described above under the Progress towards outcomes analysis). Further protraction of this legal deficiency could endanger the establishment of PPP mechanisms for management of PCBs beyond the project duration.

Institutional and governance sustainability of the project is rated **Moderately Satisfactory (MS).**

Environmental sustainability

It is critical for environmental sustainability that in the remaining period of implementation the project makes a concentrated effort on disposal and decontamination of as much as possible of PCB waste. The first batch of PCB waste sent for final disposal abroad was a massive step towards environmental sustainability since the 248 tonnes of PCB-equipment, oil and soil waste has been restricted from entering the environment. Further steps towards environmental sustainability include preparation of corporate PCB management plans and securing temporary storage facilities to safeguard PCB stockpiles before disposal, as well as adoption and enforcement of all regulatory measures developed for ESM of PCBs.

Through the revision of the Law on Waste Management (on-going at the MTR stage), the Government has signalled an intention to postpone the legal obligation for phasing-out the use of PCB-containing equipment by 5 years from the current deadline of 2020 to a new deadline of 2025. Postponement of the legal obligation for PCB phase-out could diminish the commitment to early action as the PCB holders may decide to push back their plans for PCB phase-out well beyond the completion date of the current project. Therefore, this motion raises concerns as to whether the project will be able to provide assistance in phasing-out the planned amounts of PCB equipment and waste during the implementation period of the project that will end in 2021.

Postponed phase-out of the PCB equipment in service could have negative environmental effects in case of leakages and/or more severe accidents related to operation and maintenance of electrical equipment.

Environmental sustainability of the project is rated **Moderately Satisfactory (MS).**

5. CONCLUSIONS AND RECOMMENDATIONS

Based on the previous section of the fact findings, this section synthesizes and interprets the findings into conclusions that make judgments supported by one or more specific findings. Recommendations are then specific actions the MTR team proposes to be taken by various project stakeholders that are based on the findings and conclusions.

In order to better link the conclusion/recommendation pairs to the evaluative evidence, a concise finding statement is presented first and then followed by the relevant conclusion and recommendation.

Since a majority of the recommendations are cutting across the entire project, they are not related to specific outcomes/outputs unless otherwise stated. Instead, the recommendations are classified into two groups, namely critical and normal recommendations. Recommendations No. 1-4 are rated as critical recommendations since they address critical success factors i.e. characteristics and conditions that have a significant impact on the success of the project. Therefore, the critical recommendations should be prioritized for fast track implementation.

Concise Finding 1: The analysis of the technical and economic feasibility of disposal of low-concentration PCB waste has not been completed at the mid-term stage of the project as was planned.

Conclusion 1: The technical and economic assessment of cost-effectiveness of various technology options will be a complex exercise and will require considerable time for completion. In case the dehalogenation technology is identified as the preferable option, there will be additional sizeable time period required to obtain all necessary legal permits for operation and complete procurement, delivery and commissioning of equipment.

> ***Recommendation 1:*** *PMU should initiate the analysis of the technical and economic feasibility of disposal of low-concentration PCB waste by an independent consultant as a matter of the highest priority and investigate the legislative requirements and timelines necessary for securing relevant permits for different disposal technology options.*

Concise Finding 2: The work on establishment of a public-private partnership that is proposed in the project to oversee the PCB management in the country in the medium to long term has not started yet due to the existing legislative gap, namely absence of the law on PPPs. Due to complexity of public discussion and subsequent parliamentary approval processes, it is difficult to predict whether the new law will have been enacted within the implementation period of the current project and enable thus creation of a PPP according to the planned work under this project sub-component in line with the new law.

Conclusion 2: There is a risk that the protracted deficiency of the PPP legislation could negatively affect the environmentally sound PCB management beyond the duration of the current project. The Project Steering Committee should be considered as an interim body for coordination and oversight of PCB management in Montenegro until an effective PPP mechanism will have been created and institutionalized to assume this responsibility.

Recommendation 2: *PMU in cooperation with PSC should develop a road map for continued coordination of PCB management in the country, including consideration of temporary institutionalization of PSC beyond the project completion date.*

Concise Finding 3: The formulation of the project was based mainly on a "soft" data that was obtained through a preliminary inventory of potentially PCB-contaminated equipment carried out in 2013 by the Administration for Inspection. At the preparatory phase, capacitors in possession of EPCG had been identified as a potential source of PCBs but these have not yet been sampled and analysed under the project. Moreover, the 2019 NIP update contains information on sources of PCB-contaminated equipment and PCB waste throughout the country, such as the transformers in possession of the Railway Infrastructure of Montenegro, Adriatic Shipyard "Bijela", Coal Mine Pljevlja, as well as the so-called transformers from "unknown" owners.

Conclusion 3: The updated information on transformers and capacitors suggests there is still a sizeable number of electrical equipment in the country that is potentially contaminated with PCBs where the level of PCB content has not yet been ascertained.

Recommendation 3: *PMU in cooperation with CEDIS, and other owners of the recently identified potentially PCB-contaminated equipment and CETI should initiate sampling and analysis of this equipment, including capacitors owned by CEDIS and transformers owned by other entities including the so called "unknown owners" in order to establish the amounts of PCB-contaminated equipment and waste for disposal or decontamination.*

Concise Finding 4: There has been a number of special transformers at Uniprom-KAP that require special attention since a total replacement of all these transformers is considered too expensive.

Conclusion 4: A thorough assessment of available options for handling the special transformers at Uniprom-KAP will be necessary to take into account advantages and disadvantages of total replacement of the special PCB transformers as well as alternatives to the total replacement in order to optimize the associated costs.

Recommendation 4: *PMU should solicit necessary external expertise for assessment of available technological and financial options in order to determine feasible alternatives for decontamination or disposal of the special transformers at Uniprom-KAP.*

Concise Finding 5: One of the leading premises for the PCB project formulation was the low effectiveness of enforcement of the existing legislation on PCBs in Montenegro. The project so far has provided only limited assistance to the environmental inspection authorities to fulfil their duties. The Administration for Environmental Inspections plans to recruit a number of new inspectors and it is therefore necessary to train the inspectors specifically on enforcement of the requirements related to the PCB management plans and maintenance of PCB "logbooks".

Conclusion 5: Although the Montenegrin legislation is well advanced and generally compliant with the international regulations (the Stockholm Convention and the EU directive on management of PCBs) and substantive progress has been achieved in updating the inventory of

PCB waste, effectiveness of enforcement of the legislation is critical for the success of management and progress on PCB phase-out in Montenegro.

> ***Recommendation 5:*** *PMU should ensure provision of international expertise in enforcement of PCB legislation for hands-on training of the national environmental inspectors.*

Concise finding 6: Through the revision of the Law on Waste Management (on-going at the MTR stage), the Government has signalled an intention to postpone the legal obligation for phasing-out the use of PCB-containing equipment by 5 years from the current deadline of 2020 to a new deadline of 2025.

Conclusion 6: Postponement of the legal obligation for PCB phase-out could diminish the commitment to early action as the PCB holders may decide to push back their plans for PCB phase-out well beyond the completion date of the current project. Therefore, this motion raises concerns as to whether the project will be able to provide assistance in phasing-out the planned amounts of PCB equipment and waste during the implementation period of the project that will end in 2021.

Recommendation 6: *PMU in collaboration with MoSDT should consider elaboration of a proposal for legal and financial incentives to encourage the PCB holders to take early actions for phase out of the in-service electrical equipment well in advance of the 2025 deadline. In addition, the PMU in collaboration with CEDIS and Uniprom-KAP should consider introducing presentation of maintenance plans of online PCB equipment at PSC meetings and discuss timelines for replacement and disposal of online PCB equipment well before the project ends in 2021.*

Concise Finding 7: Despite strong linkages with MoSDT and the two principal PCB holders, there is lack of connections to supporting stakeholders that are indirectly affected by the project activities.

Conclusion 7: Insufficient connections with wider circle of stakeholders could limit the general support for the intervention, especially in cases when advocacy or policy change are needed to increase the level of priority given to the PCB-related issued by the authorities.

> ***Recommendation 7:*** *PMU in cooperation with MoSDT should ensure cooperation with the on-going research project on health impact of PCBs that is being implemented by the Montenegrin Institute for Public Health. The cooperation should focus on monitoring PCB health impacts for workers with electrical equipment and communities living in the neighbourhood of the temporary PCB storage facilities.*

Concise Finding 8: There is a low level of awareness of the PCB issue at academic institutions and civic organizations.

Conclusion 8: One of the reasons that PCBs are not immediately perceived as a hazard by the common public is low level of involvement of institutions of higher education and NGOs in the

national PCB debate. Consequently, the issue of PCBs is very often given a low priority by the authorities.

> ***Recommendation 8:*** *PMU in cooperation with the main PCB holders should consider practical involvement of students of higher education in activities on PCB management, for example through participation of students in the preparation of the next export shipment of PCB waste.*

Concise Finding 9: Although the 2014-2019 NIP called for establishment of a system for collecting data on use of PCBs in the industry of plastics, coatings, paints and varnishes, as well as paints in construction, no activities in this regard have been conducted to date.

Conclusion 9: Montenegro has sufficient capacities for sampling and data analysis of caulking and paints used in building construction. This could become a foundation for eventual preparation of future activities on measuring PCB exposure levels for compliance with health-based exposure limits.

> ***Recommendation 9:*** *PMU in cooperation with MoSTD and other relevant governmental agencies should consider pilot testing on sampling and analysis of PCBs in caulk, glazing and painting materials in older buildings.*

Concise Finding 10: The results framework in the Project Document contains several inconsistencies related to objective and output indicators and the indicator target values for measurement of the project performance.

Conclusion 10: Inconsistencies in the project results framework obstruct monitoring and evaluation of the project performance.

> ***Recommendation 10:*** *PMU should consider a revision of the project results framework to ensure its consistency and full compliance with the principles of the results-based management.*

Concise Finding 11: The Project Document identifies difficulties related to the accounting of the in-kind support as a risk for the periodic assessment of co-financing and further stipulates that the above risk will be mitigated by establishing clear accounting mechanisms and rules for the in-kind co-financing at project inception. However, no such rules have been established.

Conclusion 11: Low amounts of in-kind co-financing reported by CEDIS and Uniprom-KAP and absence of in-kind co-financing data from MoSDT indicate that not all in-kind co-financing has been properly calculated and reported to PMU. This deficiency will hinder rigorous assessment of the parallel financing at the terminal evaluation.

> ***Recommendation 11:*** *PMU in cooperation with MoSDT and the two major PCB holders should develop and agree clear rules for accounting of the in-kind contributions to the project.*

Concise Finding 12: The project document contains a risk matrix composed of the risk description and type, assessment of risk impacts and probability, related mitigation measures,

as well as owners of each identified risk. The evaluators found the initial identification of risks and mitigation measures reasonable and sufficiently detailed. However, the periodic risk reassessment did not identify few critical risks that became apparent in the course of the project implementation.

Conclusion 12: Critical risk management is a standard part of the annual PIRs and periodic re-assessment of a risk management plan by both PMU and RTA is fundamental to the project's implementation and success. Labelling a risk as critical provides an important alert to the project implementation that facilitates development of timely and effective risk mitigation measures.

> ***Recommendation 12:*** *PMU should conduct a thorough reassessment of the project risks after the MTR stage and ensure that critical risks are properly identified and addressed in the Critical Risk Management section of the annual PIRs together with the corresponding assessment from the side of RTA.*

6. ANNEXES

Annex 1: UNDP-GEF Midterm Review Terms of Reference

BASIC CONTRACT INFORMATION

Location: Podgorica, Montenegro

Application Deadline:

Category: Energy and Environment

Type of Contract: Individual Contract

Assignment Type: International Consultant

Languages Required: English

Starting Date: (25 May 2019)

Expected Duration of Assignment: 25 May 2019 – 1 October 2019

BACKGROUND

A. Project Title

Comprehensive Environmentally Sound Management of PCBs in Montenegro

6.1.1.1.1 B. Project Description

This is the Terms of Reference for the UNDP-GEF Midterm Review (MTR) of the full -sized project titled *Comprehensive Environmentally Sound Management of PCBs in Montenegro* (PIMS 5562) implemented through the UNDP Montenegro, which is to be undertaken in 2019. The project started on the 16th January 2017 and is in its third year of implementation. In line with the UNDP-GEF Guidance on MTRs, this MTR process was initiated before the submission of the second Project Implementation Report (PIR). The MTR process must follow the guidance outlined in the document *Guidance For Conducting Midterm Reviews of UNDP-Supported, GEF-Financed Projects* (see Annex).

The project Comprehensive Environmentally Sound Management of PCBs in Montenegro intends to support the country with the necessary technical and financial assistance to ensure that all the remaining PCBs in the country (estimated in not less than 900 t of PCB contaminated equipment, waste and soil) are identified and disposed of. The project will be implemented side by side with the relevant institutional and industrial stakeholders, i.e. the Ministry for Sustainable Development and Tourism, private and state owned companies, holders of PCB containing equipment. Although the project expects to solve all remaining PCBs issues in the country, it will also ensure that enough capacity for the sound management of PCBs would have been built for the management of any further such hazardous waste identified in time after project's closure.

The disposal or decontamination of PCBs in Montenegro presents a number of issues and risks. First of all, the reliability of initial PCB inventory is very low and mostly limited to phased out equipment that needs to be disposed of. In Montenegro where most of information on PCBs from NIP inventory comes from disconnected equipment. This is due to the fact that electrical equipment (transformers, capacitors) when in good operating condition are usually not inspected for PCB content. The reasons are that:

- the cost of replacing transformer and capacitor is capital intense (very high), and
- the sampling and analysis of in-use equipment is a complex task requiring a significant coordination effort (for instance, coordination with maintenance schedule of electric equipment).

A second feature is that, being not immediately perceived as a hazard by the common public, the issue of PCBs is very often given a low priority from the authorities. Therefore, the existing legislation on PCB is not effectively enforced. As explained in the chapter above, although the Montenegrin legislation is well advanced and generally compliant with the Stockholm convention and the EU directive on PCBs management, and the government updated the inventory of PCB waste, the requirements related to the PCB management plans, and PCB "logbooks" are almost completely disregarded. In the absence of a sound level of enforcement of current legislation, even the industry's commitment to address the issue of PCBs – given the high costs related to the decontamination or disposal (with subsequent replacement) of contaminated equipment – is low. For this reason, the national PCB management situation can be effectively addressed only if the government's commitment and capacity are high.

A third feature is the lacking of PCB treatment technologies at local level. This is a common feature in many countries supported by UN/GEF projects in PCBs management. This usually results in industries undertaking substantial investment for shipping PCB contaminated equipment for abroad, typically EU, for disposal. In the case of Montenegro, there are no technologies for treatment of low PCB-contaminated equipment or disposal facilities available for high PCB contaminated equipment or waste, therefore until now only the highly PCB contaminated equipment has been to date treated by shipping and disposal abroad.

The project strategy is therefore designed to address simultaneously all these important aspects as outlined below.

1) Increasing national PCB management capacities and the enforcement of the legislation. This will require working side by side with the control authorities (mainly the Ministry for Sustainable Development and Tourism) and the key stakeholders (the electric power industry and other potential owners of PCB containing equipment) to:

- develop and implement a practical guidance on PCB environmentally sound management (ESM);
- provide assistance in fulfillment of legal obligations towards recording and reporting PCB related information;
- conduct inspections at sites where electrical equipment (transformers, capacitors) operates,
- train operators and officers on both sides – the governmental authorities and PCB equipment/waste owners.

2) Increasing the industry and general awareness. PCBs are very often a not very well known environmental issue. Except for extremely high pollution levels, resulting in acute and immediate health impacts, the toxic effect of PCBs (increase of cancer probability) is delayed in time and not associated to any "visible" pollution like black smoke from open burning or factories' stacks or turbidity in water. Therefore, the PCB hazard is usually not perceived as an immediate threat by many. However, an unsafe disposal of PCBs results in the contamination of food chain and other environmental media (like, for instance, sediments and soil) which may last for years. PCBs have been recently (March 2013) re-assessed by the IARC and are now classified as "known human carcinogens (class 1)" compared to the previous "probable human carcinogens (class 2)" category. There is therefore the need to inform the main stakeholders and the public at large on the benefit brought by the project so that the government and the industry are encouraged in undertaking necessary actions.

3) Engagement of stakeholders. As in other environmental programmes, only in case of key stakeholder's buy-in, the project's goals can be satisfactorily achieved. No major change in current practices can be achieved if there is little or no awareness of the risks posed by PCBs, and if stakeholders do not feel the need to address the PCB management issue once and for all. As previously described in more detail, the project had identified at PIF stage a number of important stakeholders which will be involved in all project activities during its implementation. Besides MoSDT, which will be the national implementing institution, key PCB holders, like EPCG (both for electricity generation and distribution) and KAP were informed on the project's related benefits and on the expected and required level of commitment towards it. As a result, they participated proactively in all the project development activities, including providing lists of their power equipment and facilitating oil sampling and analysis for PCB content. More stakeholder engagement, by involving other line Ministries, academic institutions and NGO sector is planned during the project implementation which will too include civil society associations, trade unions, and other beneficiaries.

4) Strengthening the reliability of information through updating of the PCB inventory. At PIF stage, the only available information was related to the list of phased-out PCB equipment and waste, a few pure PCB transformers, online or stored at KAP, oil tanks and contaminated material (sawdust, soil, waste) potentially contaminated by PCBs. Due to the low enforcement of the legislation, there was very little information available on the concentration of PCB online equipment. The information concerning the number, age and level of contamination of PCB equipment is indeed essential for both management purposes and identification of the proper treatment / disposal technologies. This situation was already evident at the PIF formulation stage, and therefore the main focus in the preliminary inventory carried out during preparation of the FSP project document concerned existing offline and online equipment at EPCG company. At same time, only limited PCB content in transformers stored or online at KAP was re-confirmed, including that data on PCB contaminated soil. The project will continue consolidating the PCB inventory by undertaking dielectric oil sampling and analytical determination of PCBs in 3,000 pieces of equipment during the first two years of its implementation.

5) Provide know-how and financial support on the technologies for the disposal of PCB equipment. Clearly, one of the central issues on the side of PCB ESM concerns the availability of technical and financial resources for PCB disposal. In the absence of a sound know-how related to disposal operations of PCB contaminated equipment, the cost / benefit ratio is always very high, for the following reasons:

- the options allowing the chemical destruction of the PCBs in the dielectric oil without destroying the oil itself are usually not considered, so that the dielectric oil, which is usually a very expensive asset, is lost;
- the planning of PCB equipment phasing out is not aligned with their residual value, so that very often a strategy aimed at minimizing the cost of disposal of PCB contaminated equipment is not pursued; and
- the legal aspects related to the storage of PCB containing equipment under maintenance versus PCB phased out equipment (to be considered waste) are usually neglected, exposing therefore owners of PCB equipment to a severe liability risk.

The project budget from the GEF Trust Fund is 3,5 mil USD, UNDP TRAC resources are 50,000 USD and total co-financing is 19,803,691 USD.

DUTIES AND RESPONSIBILITIES

6.1.1.1.2 C. Scope of Work and Key Tasks

The MTR team will consist of two independent consultants that will conduct the MTR - one team leader (with experience and exposure to projects and evaluations in other regions globally) and one local expert.

The MTR team will first conduct a document review of project documents (i.e. PIF, UNDP Initiation Plan, Project Document, ESSP, Project Inception Report, PIRs, Finalized GEF focal area Tracking Tools, Project Appraisal Committee meeting minutes, Financial and Administration guidelines used by Project Team, project operational guidelines, manuals and systems, etc.) provided by the Project Team and Commissioning Unit. Then they will participate in a MTR inception workshop to clarify their understanding of the objectives and methods of the MTR, producing the MTR inception report thereafter. The MTR mission will then consist of interviews and site visits to UNIPROM KAP, CEDIS, HEMOSAN in Bar.

The MTR team will assess the following four categories of project progress and produce a draft and final MTR report. See the *Guidance For Conducting Midterm Reviews of UNDP-Supported, GEF-Financed Projects*. No overall rating is required.

1. **Project Strategy**

Project Design:

- Review the problem addressed by the project and the underlying assumptions. Review the effect of any incorrect assumptions or changes to the context to achieving the project results as outlined in the Project Document.
- Review the relevanced of the project strategy and assess whether it provides the most effective route towards expected/intended results.
- Review how the project addresses country priorities
- Review decision-making processes

Results Framework/Logframe:

- Undertake a critical analysis of the project's logframe indicators and targets, assess how "SMART" the midterm and end-of-project targets are (Specific, Measurable, Attainable, Relevant, Time-bound), and suggest specific amendments/revisions to the targets and indicators as necessary.
- Examine if progress so far has led to, or could in the future catalyse beneficial development effects (i.e. income generation, gender equality and women's empowerment, improved governance etc...) that should be included in the project results framework and monitored on an annual basis.

2. **Progress Towards Results**

- Review the logframe indicators against progress made towards the end-of-project targets; populate the Progress Towards Results Matrix, as described in the *Guidance For Conducting Midterm Reviews of UNDP-Supported, GEF-Financed Projects*; colour code progress in a "traffic light system" based on the level of progress achieved; assign a rating on progress for the project objective and each outcome; make recommendations from the areas marked as "not on target to be achieved" (red).
- Compare and analyse the GEF Tracking Tool at the Baseline with the one completed right before the Midterm Review.
- Identify remaining barriers to achieving the project objective.
- By reviewing the aspects of the project that have already been successful, identify ways in which the project can further expand these benefits.

3. **Project Implementation and Adaptive Management**

Using the *Guidance For Conducting Midterm Reviews of UNDP-Supported, GEF-Financed Projects*; assess the following categories of project progress:

- Management Arrangements
- Work Planning
- Finance and co-finance
- Project-level monitoring and evaluation systems
- Stakeholder Engagement
- Reporting
- Communications

4. Sustainability

Assess overall risks to sustainability factors of the project in terms of the following four categories:

- Financial risks to sustainability
- Socio-economic risks to sustainability
- Institutional framework and governance risks to sustainability
- Environmental risks to sustainability

The MTR consultant/team will include a section in the MTR report setting out the MTR's evidence-based **conclusions**, in light of the findings.

Additionally, the MTR consultant/team is expected to make **recommendations** to the Project Team. Recommendations should be succinct suggestions for critical intervention that are specific, measurable, achievable, and relevant. A recommendation table should be put in the report's executive summary. The MTR consultant/team should make no more than 15 recommendations total.

6.1.1.1.3 D. Expected Outputs and Deliverables

The MTR consultant/team shall prepare and submit:

- MTR Inception Report: MTR team clarifies objectives and methods of the Midterm Review no later than 2 weeks before the MTR mission. To be sent to the Commissioning Unit and project management. Approximate due date: (10 June 2019)
- Presentation: Initial Findings presented to project management and the Commissioning Unit at the end of the MTR mission. Approximate due date: (28 June 2019)
- Draft Final Report: Full report with annexes within 3 weeks of the MTR mission. Approximate due date: (19 July 2019)
- Final Report*: Revised report with annexed audit trail detailing how all received comments have (and have not) been addressed in the final MTR report. To be sent to the Commissioning Unit within 1 week of receiving UNDP comments on draft. Approximate due date: (20 September 2019)

*The final MTR report must be in English. If applicable, the Commissioning Unit may choose to arrange for a translation of the report into a language more widely shared by national stakeholders.

E. Institutional Arrangement

The principal responsibility for managing this MTR resides with the Commissioning Unit. The Commissioning Unit for this project's MTR is *UNDP Montenegro.*

The Commissioning Unit will contract the consultants and ensure the timely provision of per diems and travel arrangements within the country for the MTR team. The Project Team will be responsible for liaising with the MTR team to provide all relevant documents, set up stakeholder interviews, and arrange field visits.

F. Duration of the Work

The total duration of the MTR will be approximately *25 days* over a period of 18 w*eeks* starting 25 May 2019*,* and shall not exceed five months from when the consultant(s) are hired. The tentative MTR timeframe is as follows:

- *20 April 2019:* Application closes
- *22 May 2019:* Selection of MTR Team
- *24 May 2019:* Prep the MTR Team (handover of project documents)
- *24 May - 10 June 2019, 4 days:* Document review and preparing MTR Inception Report
- *17 June – 21 June 2019, 2 days:* Finalization and Validation of MTR Inception Report- latest start of MTR mission
- *1 July – 5 July 2019, 6 days:* MTR mission: stakeholder meetings, interviews, field visits
- *5 July 2019:* Mission wrap-up meeting & presentation of initial findings- earliest end of MTR mission
- *6 July – 26 July 2019, 10 days:* Preparing draft report
- *23 September – 30 September 2019, 2 days:* Incorporating audit trail on draft report/Finalization of MTR report (note: accommodate time delay in dates for circulation and review of the draft report)
- *23 September 2019:* Preparation & Issue of Management Response
- *n/a:* (optional) Concluding Stakeholder Workshop (not mandatory for MTR team)
- *30 September 2019:* Expected date of full MTR completion

The date start of contract is 23 May 2019.

G. Duty Station

Duty station for this assignment would be Podgorica, Montenegro with travel to Bar.

Travel:

- International travel will be required to Montenegro during the MTR mission;
- The Basic Security in the Field II and Advanced Security in the Field courses must be successfully completed prior to commencement of travel;
- Individual Consultants are responsible for ensuring they have vaccinations/inoculations when travelling to certain countries, as designated by the UN Medical Director.
- Consultants are required to comply with the UN security directives set forth under https://dss.un.org/dssweb/
- All related travel expenses will be covered and will be reimbursed as per UNDP rules and regulations upon submission of an F-10 claim form and supporting documents.

REQUIRED SKILLS AND EXPERIENCE

H. Qualifications of the Successful Applicants

The selection of consultants will be aimed at maximizing the overall "team" qualities in the following areas:

- Recent experience with result-based management evaluation methodologies; - 10%
- Experience applying SMART targets and reconstructing or validating baseline scenarios; - 10%
- Competence in adaptive management, as applied to Chemicals / Waste *Focal Area*);- 10%
- Experience working with the GEF or GEF-evaluations; - 20%
- Experience working in *Montenegro, Western Balkans, CIS countries*; - 10%
- Work experience in relevant technical areas for at least 10 years; - 10%
- Demonstrated understanding of issues related to gender and chemicals; experience in gender sensitive evaluation and analysis; - 5%
- Excellent communication skills; - 5%
- Demonstrable analytical skills; - 5%
- Project evaluation/review experiences within United Nations system will be considered an asset; - 5%
- A University degree in technical sciences (civil engineering, technical engineering…) and / or natural sciences (chemistry, biology, environment…), or other closely related field. Master's degree will be considered as an asset. – 10%

Annex 2: Evaluation Matrix

Evaluation Criteria	Evaluation Questions	Indicators	Data Sources	Data Collection Methods
Project Strategy	Are the project's objectives and outcomes or components clear, practical, and feasible within its time frame? Does the progress so far indicate that the project could in the future catalyse beneficial development effects that could be included in the project results framework and monitored on an annual basis? Are broader development and gender aspects of the project being monitored effectively? Develop and recommend SMART 'development' indicators, including sex-disaggregated indicators and indicators that capture development benefits How relevant is the project strategy to address the country priorities? Is the project in line with the national sector development priorities and plans? To what extent were perspectives of those affected by project decisions and of those who could affect the outcomes, taken into account during project design processes? Does the project strategy provide an effective route towards expected/intended results? To what extent were lessons learned from other relevant projects incorporated into the project design? Are the underlying assumptions for the problem addressed by the project still valid?	Project activities in line with the country development and sectoral priorities and plans Activities produce outputs according to the project logframe Lessons learned from previous projects taken into account for implementation Assumptions and risks identified are effectively managed	UNDP programme/project documents UNDP programme/project Annual Work Plans Programmes/projects/ thematic areas evaluation reports Government's national planning documents Human Development Reports MDG progress reports Government partners progress reports Interviews with beneficiaries UNDP staff Development partners (UN agencies, bilateral development agencies) Government partners involved in specific results/thematic areas Concerned civil society partners Concerned associations and federations	Desk reviews of secondary data Interviews with government partners Interviews with NGOs partners/service providers Interviews with funding agencies and other UNCT Interviews with UNDP staff, development partners and government partners, civil society partners, associations, and federations
Progress Towards Results	Which are the aspects of the project that have already been successful and how the project can further expand these benefits? How does the GEF Tracking Tool at the Baseline compare with the GEF TT completed before the Midterm Review? How far has the regional context been taken into consideration while selecting the project/ programme? Was there any partnership strategy in place for implementation of the project and if so how effective was it?	GEF TT used as project management instrument The project has partnership strategy and actions taken to promote cooperation between partners	Project/programme/thematic areas evaluation reports Progress reports on projects UNDP staff Development partners Government partners Beneficiaries Progress reports on projects Programme documents Annual Work Plans/Progress Reports Evaluation reports MDG/Human Development Reports	Desk reviews of secondary data Interviews with government partners, development partners, UNDP staff, civil society partners, associations, and federations

Evaluation Criteria	Evaluation Questions	Indicators	Data Sources	Data Collection Methods
Project Implementation & Adaptive Management	Has the project or programme been implemented within the original timeframe and budget? To what extent the work-planning processes are results-based? To what extent has the project's results framework/logframe been used as a management tool and were there any changes to it since the project start? Have UNDP and the PMU taken prompt actions to solve implementation issues? Have there been any delays in project start-up and implementation and if so what were the causes and how they have been solved? What mechanisms does UNDP have in place to monitor implementation? Are these effective? Have there been any outside factors (e.g. political instability) affecting on implementation effectiveness?	Project implementation within the original timeframe and budget Annual workplans elaborated according to the logframe Implementation issues solved by PMU/UNDP Implementation monitoring tools in place and effectively used	Programme documents Annual Work Plans Annual Progress Reports Evaluation reports Government partners Development partners UNDP staff (Programme Implementation Support Unit)	Desk reviews of secondary data Interviews with government partners and development partners
	To what extent financial controls have been established that allow the project management to make informed decisions regarding the budget at any time and allow for the timely flow of funds? Has there been over-expenditure or under-expenditure on the project? Were the resources focused on the set of activities that were expected to produce significant results? Were the project resources concentrated on the most important initiatives or were they scattered/spread thinly across initiatives?	Financial controls established and used to provide feedback on implementation Activities prioritized for achievement of significant results	Programme documents Annual Work Plans Annual Progress Reports Evaluation reports Government partners Development partners UNDP staff (Programme Implementation Support Unit)	Desk reviews of secondary data Interviews with government partners and development partners
	Have changes been made and are they effective? Are the existing responsibilities and reporting lines clear? To what extent is decision-making in the project transparent and undertaken in a timely manner?	Decision-making on implementation transparent and timely Implementation of components with multiple responsible partners clear and timely	Programme documents Annual Work Plans Annual Progress Reports Evaluation reports Government partners Development partners UNDP staff (Programme Implementation Support Unit)	Desk reviews of secondary data Interviews with government partners and development partners

Evaluation Criteria	Evaluation Questions	Indicators	Data Sources	Data Collection Methods
Project Implementation & Adaptive Management (continued)	Has the project developed and leveraged partnerships with direct and tangential stakeholders? Do the stakeholders have roles in project decision-making that support efficient and effective project implementation? To which extent has stakeholder involvement and public awareness contributed to the progress towards achievement of project objectives and are there any limitations to stakeholder awareness of project outcomes/ participation in project activities?	Mechanisms for involvement of other stakeholders in place Other stakeholders aware of the project and involved in implementation	Programme documents Annual Work Plans Annual Progress Reports	Desk reviews of secondary data
	How the Project Team and partners undertake and fulfill the GEF reporting requirements? To what extent have lessons derived from the adaptive management process been documented, shared with and internalized by key partners and incorporated into project implementation? Have the PIRs been shared with the Project Board and other key stakeholders?	Quality reporting according to GEF reporting requirements Lessons for adaptive management documented and taken into account for implementation	Evaluation reports Progress reports UNDP programme staff	Desk reviews of secondary data Interview UNDP programme staff
	How regular and effective has been the internal project communication with project stakeholders? Are there any ways of external communication established to inform about the project progress the public? Are there any aspects of the project that might yield excellent communications material as additional project output?	Quality and effectiveness of internal communication Possibilities for additional communication material identified	Evaluation reports Progress reports UNDP programme staff	Desk reviews of secondary data Interview UNDP programme staff

Evaluation Criteria	Evaluation Questions	Indicators	Data Sources	Data Collection Methods
Sustainability	What is the likelihood of financial and economic resources not being available once the GEF assistance ends? To what extent financial and economic instruments and mechanisms have been established or will be established to ensure the ongoing flow of benefits once the GEF assistance ends? What additional factors are needed to create an enabling environment for continued financing?	Existence of counterpart/stakeholder funding for the project outcomes Additional factors for continued financing identified	Programme documents Annual Work Plans Annual Progress Reports Evaluation reports Government partners Development partners UNDP staff (Programme Implementation Support Unit)	Desk reviews of secondary data Interviews with government partners and development partners
	Has the project put in place frameworks, policies, governance structures and processes that will create mechanisms for institutional and technical knowledge transfer after the project's closure? To what extent has the project been developing institutional capacity (systems, structures, staff, expertise,etc.) that will be self-sufficient after the project closure date? Has the project achieved stakeholders' consensus regarding courses of action after the project's closure?	Institutional frameworks for continuation of activities established Level of self-sufficiency of the established institutional frameworks	Programme documents Annual Work Plans Annual Progress Reports Evaluation reports Government partners Development partners UNDP staff (Programme Implementation Support Unit)	Desk reviews of secondary data Interviews with government partners and development partners
	Are there any social or political risks that may jeopardize sustainability of project outcomes? Are there any environmental factors that could undermine and reverse the project's outcomes, including factors that have been identified by project stakeholders? What is the risk that the level of stakeholder ownership (including ownership by governments and other key stakeholders) will be insufficient to allow for the project outcomes/benefits to be sustained? Is there sufficient public/ stakeholder awareness in support of the objectives of the project?	Social, political and environmental risks identified and taken into account Level of stakeholder awareness and ownership of the project results	Programme documents Annual Work Plans Annual Progress Reports Evaluation reports Government partners Development partners UNDP staff (Programme Implementation Support Unit)	Desk reviews of secondary data Interviews with government partners and development partners

SAMPLE QUESTIONS RELATING TO THE PROMOTION OF UN VALUES FROM A HUMAN DEVELOPMENT PERSPECTIVE				
Evaluation Criteria	**Evaluation Questions**	**Indicators**	**Data Sources**	**Data Collection Methods**
Supporting policy dialogue on human development issues	To what extent does the initiative support the government in monitoring achievement of MDGs? What assistance has the initiative provided supported the government in promoting human development approach and monitoring MDGs? Comment on how effective this support has been.	Level of contribution of the project to the achievement of MDGs	Project documents Evaluation reports HDR reports MDG reports National Planning Commission Ministry of Finance	Desk review of secondary data Interviews with government partners
Contribution to gender equality	To what extent was the UNDP initiative designed to appropriately incorporate in each outcome area contributions to attainment of gender equality? To what extent did UNDP support positive changes in terms of gender equality and were there any unintended effects? Provide example(s) of how the initiative contributes to gender equality. Can results of the programme be disaggregated by sex?	Level of monitoring of gender related issues	Project documents Evaluation reports UNDP staff Government partners Beneficiaries	Desk review of secondary data Interviews with UNDP staff and government partners Observations from field visits
Addressing equity issues (social inclusion)	To what extent does the project take into account the needs of vulnerable and disadvantaged to promote social equity, for example, women, youth, disabled persons? Provide example(s) of how the initiative takes into account the needs of vulnerable and dis- advantaged groups, for example, women, youth, disabled persons. How has UNDP programmed social inclusion into the initiative?	Level of monitoring of social inclusion related issues	Project documents Evaluation reports UNDP staff Government partners Beneficiaries	Desk review of secondary data Interviews with UNDP staff and government partners Observations from field visits

Annex 3: Agenda of the MTR Mission

AGENDA

for

MTR Mission to Montenegro

Mr Dalibor Kysela, Ms Snezana Marstijepovic

Sunday 1st September, Arrival to Montenegro (International Consultant)

1st working day – Monday, 2nd September:

09h – 11h – UNDP Montenegro – Meeting with Maja Kustudic Asanin, Programme Manager, and Vladan Bozovic, Project Assistant Coordinator

11h – 12h – UNDP Montenegro – Meeting with Ana Dakovic, Programme Assistant (project documentation/ administration/ Budget)

12h – 13h – Lunch break

13h – 15h – Administration for Inspection Affairs (Environment Inspection Unit) – Meeting with Vesna Zarubica, Head of the Environment Inspection Unit

2nd working day –Tuesday, 3rd September

9h – 11h – Ministry for Sustainable Development and Tourism – Meeting with Dragan Asanovic, General Manager of the Directorate for Waste Management and Utility Development and Jelena Kovacevic, Division for Control of Industrial Pollution and Chemicals Management

11h – 12h – CETI – meeting with Danijela Sukovic

12h – 13h – Lunch break

13h – 15h –EPCG – Meeting with Milan Marjanovic, CEDIS representative, and with a representative from CGES (Montenegrin transmission company)

3rd working day – Wednesday, 4th September

9h – 12h – Aluminum Plant Podgorica - Meeting with representatives of the Aluminum Plant and visit of the Uniprom-KAP site (PCB polluted soil and PCB waste)

14h – 17h – HEMOSAN Bar – Meeting with Zoran Nikitovic and visit of the storage site of PCB waste

4th working day – Thursday, 5th September

10h – 11h – UNDP Montenegro – Meeting per skype with Maksim Surkov, RTA UNDP Istanbul

11h – 12h – UNDP Montenegro – Meeting per skype with Aleksandar Mickovski, Project Technical Advisor

12h – 13h – lunch break

13h – 14h – Meeting with NGO Ozon – Aleksandar Perovic, Director of NGO Ozon

14h – 15h – Meeting with representatives of the Public Health Institute?

5th working day – Friday, 6th September

10h – 11h – UNDP Montenegro – meeting with UNDP RR, Ms Daniela Gasparikova

11h – 13h – UNDP Montenegro – wrap up meeting with project team

Annex 4: List of Persons Interviewed

Name	Position	Organization
Maja Kustudic Asanin	Project Manager	UNDP Montenegro
Vladan Bozovic	Project Coordinator	UNDP Montenegro
Ana Dakovic	Financial Assistant	UNDP Montenegro
Maxim Surkov	Regional Technical Advisor	UNDP Istanbul
Aleksandar Mickovski	International Technical Expert	
Daniela Gasparikova	UNDP Resident Representative	UNDP Montenegro
Tomica Paovic	Democratic Governance and Economy and Environment Team Leader	UNDP Montenegro
Veselinka Zarubica	Head of the Environmental Inspectorate	Environmental inspectorate
Dejan Filipovic	Environmental inspector	Environmental inspectorate
Jelena Kovacevic	Directorate for Industrial Pollution Control, Chemical Management and Nature Protection	Ministry of Sustainable Development and Tourism
Olivera Kujundzic	Environmental department	Ministry of Sustainable Development and Tourism
Danijela Sukovic	Head of department for laboratory diagnostics and radiation protection	CETI
Vladimir Zivkovic	Laboratory	CETI
Milan Marjanovic	Head of Protection System Division	CEDIS
Marjana Kaludzerovic	Head of Environmental Division	CEDIS
Rosa Djuricanin	Health and Security Division	CEDIS
Dragutin Jankovic	Head of the Electro-energy Division	UNIPROM KAP
Marina Medojevic	Specialist in industrial waste monitoring in IMS-UNIPROM KAP	UNIPROM KAP
Zoran Nikitovic	Executive Director	HEMOSAN
Biljana Radovic	Head of sector for management of industrial and hazardous waste	HEMOSAN
Dijana Djurovic	Head of Department for Water and Soil Control	Public Health Institute
Dragan Asanovic	General Director of the Directorate for Waste Management and Utility Development	Ministry of sustainable development and tourism

Annex 5: List of Documents Consulted

1. Guidance for Conducting Midterm Reviews of UNDP-supported, GEF-financed Projects UNDP-GEF, 2014
2. The GEF Monitoring and Evaluation Policy, GEF Evaluation Office, 2010
3. UNDP Evaluation Guidelines, UNDP, 2019
4. Outcome-Level Evaluations, A Companion Guide, UNDP, 2011
5. Glossary of Key Terms in Evaluation and Results Based Management, OECD, 2010
6. Ethical Guidelines for Evaluations, UNEG, 2008
7. Integrating Human Rights and Gender Equality in Evaluations, UNEG, 2014
8. Comprehensive Environmentally Sound Management of PCBs in Montenegro, Project Document, UNDP/GEF, 2016
9. Montenegro GEF-6 Chemicals and Waste Tracking Tool, UNDP 2016
10. Comprehensive Environmentally Sound Management of PCBs in Montenegro, Inception Report, UNDP, 2017, UNDP, 2017
11. 2018 Project Implementation Review (PIR), UNDP
12. 2019 Project Implementation Review (PIR), UNDP
13. Minutes of the first meeting of the Steering Committee of the project "Comprehensive Environmentally Sound Management of Waste Containing Polychlorinated Biphenyls (PCBs) in Montenegro, UNDP, 2017
14. Minutes of the second meeting of the Steering Committee of the project "Comprehensive Environmentally Sound Management of Waste Containing Polychlorinated Biphenyls (PCBs) in Montenegro, UNDP, 2017
15. Minutes of the third meeting of the Steering Committee of the project "Comprehensive Environmentally Sound Management of Waste Containing Polychlorinated Biphenyls (PCBs) in Montenegro, UNDP, 2018
16. Minutes of the fourth meeting of the Steering Committee of the project "Comprehensive Environmentally Sound Management of Waste Containing Polychlorinated Biphenyls (PCBs) in Montenegro, UNDP, 2018
17. Minutes of the fifth meeting of the Steering Committee of the project "Comprehensive Environmentally Sound Management of Waste Containing Polychlorinated Biphenyls (PCBs) in Montenegro, UNDP, 2019
18. Combined Delivery Reports, UNDP, 2017-2019 (up to 17 June 2019)
19. Budget Revision Templates, UNDP, 2017-2019
20. List of PCB-related regulations and by-laws developed by the PCB project, 2017-2019
21. National Implementation Plan for the Stockholm Convention 2014-2021, Ministry of Sustainable Development, October 2013
22. Draft National Implementation Plan for the Stockholm Convention 2019-2023, Ministry of Sustainable Development, July 2019
23. Set of seven technical guidelines on various aspects of the PCB waste management cycle: i) PCB – Chemical properties, application and impact on human health and the

environment; ii) Identification of PCBs; iii) Use and maintenance of PCB- containing equipment, gradual shutdown, decommissioning and replacement of equipment; iv) packaging and storage of PCB-containing waste; v)Transport of PCB-containing waste; vi) Emergency procedures and security procedures; vii) Disposal and decontamination of PCB-containing equipment and waste, 2018

Annex 6: MTR Rating Scales

Ratings for Progress Towards Results: (one rating for each outcome and for the objective)		
6	Highly Satisfactory (HS)	The objective/outcome is expected to achieve or exceed all its end-of-project targets, without major shortcomings. The progress towards the objective/outcome can be presented as "good practice".
5	Satisfactory (S)	The objective/outcome is expected to achieve most of its end-of-project targets, with only minor shortcomings.
4	Moderately Satisfactory (MS)	The objective/outcome is expected to achieve most of its end-of-project targets but with significant shortcomings.
3	Moderately Unsatisfactory (MU)	The objective/outcome is expected to achieve its end-of-project targets with major shortcomings.
2	Unsatisfactory (U)	The objective/outcome is expected not to achieve most of its end-of-project targets.
1	Highly Unsatisfactory (HU)	The objective/outcome has failed to achieve its midterm targets and is not expected to achieve any of its end-of-project targets.
Ratings for Project Implementation & Adaptive Management: (one overall rating)		
6	Highly Satisfactory (HS)	Implementation of all seven components – management arrangements, work planning, finance and co-finance, project-level monitoring and evaluation systems, stakeholder engagement, reporting, and communications – is leading to efficient and effective project implementation and adaptive management. The project can be presented as "good practice".
5	Satisfactory (S)	Implementation of most of the seven components is leading to efficient and effective project implementation and adaptive management except for only few that are subject to remedial action.
4	Moderately Satisfactory (MS)	Implementation of some of the seven components is leading to efficient and effective project implementation and adaptive management, with some components requiring remedial action.
3	Moderately Unsatisfactory (MU)	Implementation of some of the seven components is not leading to efficient and effective project implementation and adaptive, with most components requiring remedial action.
2	Unsatisfactory (U)	Implementation of most of the seven components is not leading to efficient and effective project implementation and adaptive management.
1	Highly Unsatisfactory (HU)	Implementation of none of the seven components is leading to efficient and effective project implementation and adaptive management.
Ratings for Sustainability: (one overall rating)		
4	Likely (L)	Negligible risks to sustainability, with key outcomes on track to be achieved by the project's closure and expected to continue into the foreseeable future
3	Moderately Likely (ML)	Moderate risks, but expectations that at least some outcomes will be sustained due to the progress towards results on outcomes at the Midterm Review
2	Moderately Unlikely (MU)	Significant risk that key outcomes will not carry on after project closure, although some outputs and activities should carry on
1	Unlikely (U)	Severe risks that project outcomes as well as key outputs will not be sustained

Annex 7: Project Results Matrix

Result	Objective and Outcome Indicators	Baseline	Mid-term Target	End of Project Target	Assumptions
Project Objective: ***Comprehensive identification and disposal/treatment of PCB contaminated equipment and waste in the country***	*National environmentally sound management (ESM) system of PCB chemicals and waste drafted, and implemented by 2020* *700 tons of pure PCBs and 200 tons of low-concentrated PCBs/related waste are safely managed and disposed of/decontaminated by the end of the project, thus reducing global and local environment from exposure to these hazardous wastes*	*People and workers are currently exposed to the risk posed by PCB containing equipment stored or online.* *Financial resources were used to buy disposal service abroad without creating job opportunities in the country.* *Current PCB management regulation has some deficiencies and requires appropriate capacity and cooperation from PCB equipment/waste owners to be enforced* *No national PCB management plan prepared and comprehensively implemented as of now.* *No comprehensive ESM system is in place to address the national PCB situation, and power equipment is exposed to continuous cross-contamination*	*Comprehensive national PCB inventory is mid-way through* *ESM guidance materials drafted and an initial training of PCB holders planned for and carried out* *The risk for the population surrounding plant and storage facilities containing PCBs is minimized thanks to safety measures preventing PCB release in the environment.*	*Existing storage facilities for PCBs are assessed and upgraded to international standard to allow PCB removal/decontamination operations* *The risk for the population surrounding plant and storage facilities containing PCBs is minimized through t sound disposal of at least 700 + 200 tons of PCB contaminated equipment and waste* *Local firms / institutions benefitting from the establishment of a public-private partnership on PCB management.*	*Identified PCB contaminated equipment are under control and secured for disposal until technologies or service delivered by the project are available.* *Handling of PCB equipment and disposal activities are carried out in an environmentally safe way without any harm to the environment and the health.* *The public-private partnership established is effective and sustainable and will continue to bring economic and environmental benefit to the Montenegrin population after project closure*
	Amount of PCB equipment identified and listed in the PCB inventory and included in the national management plan	*A systematic PCB inventory, including PCB identification and labelling is missing.*	*At least 2,000 pieces of equipment tested to verify their PCB content, out of which PCB containing equipment is identified and labelled for future treatment or disposal.* *National PCB database established and maintained to help with priority decision-making*	*At least 3,000 pieces of equipment tested to verify their PCB content. PCB containing equipment is identified and labelled for future treatment or disposal out of which PCB containing equipment is stored or secured for disposal under the GEF project.* *Measures to prevent release of PCBs in the environment are in place.*	*Potential PCB owners are willing to facilitate sampling and analysis of their equipment.* *The capacity of the country to carry out sampling and analysis of dielectric oil and waste for PCB quantification is large and reliable enough to timely carry out sampling and analysis activities.*

Result	Objective and Outcome Indicators	Baseline	Mid-term Target	End of Project Target	Assumptions
	Amount of PCB contaminated equipment and waste treated or disposed of *Around 173 tons of equipment containing PCBs sent abroad for disposal from 2007 to 2009.* *Around 36 tons of PCB contaminated soil sent abroad or disposal.* *No PCBs disposal/decontamination technology available in the country*	*Based on final inventory amounts, temporary storage locations identified and upgraded to meet international standards.* *Pure PCB waste is prepared for export to HTI plants for final disposal, and PCB contaminated oil is treated via rented or purchased PCB dehalogenation technology.* *The most cost-effective PCB dehalogenation technology has been selected and rented/procured.* *Appropriate EIA/SIA procedures for making the rented/procured technology operational are completed, and location to host the technology selected and confirmed.*	*At least 700 tons of equipment containing PCB (in pure and contaminated forms) and at least 200 tons of PCB containing waste or soil are treated or disposed of in compliance with Stockholm Convention and Basel Conventions' requirements.* *Disposal/cleaning certificates obtained.*	*Identified PCB containing equipment and waste amount to at least 700+200 tons and is properly stored for treatment or disposal under the project.*	*The technology or service for the disposal of PCB equipment and waste (within the country or abroad) will be selected and procured/rented in a cost-effective manner to stay within the project's budget and timing constraints.* *Disposal of 700+200 tons of PCB equipment or can be completed within project and budget constraints.*
Component/Outcome 1 **Capacity strengthening on PCB management.**	*Number of operators of the electric sector and of the environmental control authority trained on and feel confident in practically applying the ESM system for PCBs.* *Number of technical and procedural guidance documents compliant with Stockholm Convention and national regulation completed and endorsed.* *Gender Dimension in the context of PCBs issue in Montenegro completed, strategies for better Gender Mainstreaming in POPs related activities identified.*	*No or insufficient technical level guidance materials on ESM for PCB management exists.* *No training on PCB issued delivered to operators in the electric sector countrywide.* *Only staff at the central level in MoSDT and research institutions is knowledgeable about POPs in general and PCB issues in particular* *No gender dimension study ever carried out on POPs in Montenegro.*	*- Guidance document drafted for sampling of online and offline equipment, handling storage and disposal of PCB containing waste and equipment and discussed in one dedicated workshop.* *- Using the guidance material, at least one training session covering 50 operators of the electric sector implemented* *- Procedural and guidance documents for environmental authorities on Stockholm and Basel convention, EU regulation on POPs and PCBs, BAT and BEP for PCB treatment and disposal operation drafted and discussed in a dedicated workshop* *- One training session covering at least 25 officers from the relevant*	*- Guidance document for sampling of online and offline equipment, handling storage and disposal of PCB containing waste and equipment developed and adopted.* *- Two training session covering at least 20 equipment operators (engineers and technicians) in the electric power sector* *- Procedural and guidance documents for environmental authorities on Stockholm and Basel convention, EU regulation on POPs and PCBs, BAT and BEP for PCB*	*Prospects for adoption of technical guidance lines are high, and related consultations initiated and ongoing.* *Equipment operators willing to attend training and apply knowledge practically in joint work with the project.* *Trainers have extensive experience in the field of PCB management.*

Result	Objective and Outcome Indicators	Baseline	Mid-term Target	End of Project Target	Assumptions
			ministries and research institutions carried out. *- Dissemination of project objectives and midterm results through establishment of a website, broadcasting, workshops, with enhancement on gender related issues* *- Gender Dimension study completed.*	*treatment and disposal operation adopted.* *- Two training sessions for at least 20 officers from the relevant ministries and institutions carried out. .* *- Dissemination of project achievements through regular updating of website content, broadcasting, workshop, with enhancement on gender related issues*	
	Level of enforcement of the Montenegro's law on PCB management strengthened, measured through the number of owners of electrical equipment complying with the regulation.	*The national regulation on PCB is not enforced.* *No or insufficient technical level guidance materials on ESM for PCB management exists.* *Individual (company-specific) PCB Management plans and logbooks required under the regulation are not submitted.* *The current penalty policy is not applied or not effective due to the low enforcement level.*	*- Gap analysis with special reference to enforcement needs completed at mid-term.* *- Technical assistance to the environmental authorities on the enforcement of the law and technical regulation related to PCBs delivered through specialized trainings and joint participation of project staff and government representatives in at least 5 site inspections followed by assessment of the cases.* *-Company-wide PCB management plans drafted by participating companies*	*- Advisory support and required technical assistance in the implementation of the country technical regulations and guidance on PCBs and POPs in view of the alignment with EU regulation delivered through continuous project support.* *- Technical assistance to the environmental authorities on the enforcement of the law and regulation related to PCBs delivered through joint participation of project staff and government representatives in at least 10 site inspections followed by assessment of the cases.*	*A fruitful cooperation among project staff, government, and key stakeholders on technical, legal and financial matter is ensured so that the amended / improved regulatory package is implementable, enforceable and sustainable.*

Result	Objective and Outcome Indicators	Baseline	Mid-term Target	End of Project Target	Assumptions
Component/ Outcome 2 **PCB Inventory, planning and establishment of public-private partnership**	*One consolidated country-wide PCB inventory updated and completed, with appropriate data of sampling dates and analysis results of phased out and in-use equipment*	*An incomplete inventory report developed by MoSDT without analytical data and not including electric equipment from the electric power sector.* *Central consolidated PCB database to track inventory and PCB disposal process is not available*	*- Preliminary survey carried out through sampling and analysis of at least 300 pieces of equipment at PPG stage. Inventory sampling activity plan for 3,000 equipment is well underway at mid-term point. Services for the sampling, analysis of this equipment and establishment of PCB inventory procured* *- Sampling and analysis of at least 2,000 pieces of PCB suspected equipment carried out.* *- PCB containing equipment labelled and entered in a computerized database.*	*- At least 3,000 equipment oil samples have been taken and analysed for quantifying PCB concentration.* *- A dynamic PCB inventory established and made available to authorities and PCB holders through a dedicated website with access policies.*	*Owners of PCB contaminated equipment and waste will facilitate the access to their facilities and the sampling operations.* *Proper chain of custody and quality control procedures is established to ensure the reliability of sampling and analysis operations.*
	2.2 The PCB national management plan is drafted and approved.	*No national PCB management plan developed or available to guide action on addressing PCB matters in the country* *No industry-wide coordinated action is taken to address PCB ESM*	*- The national PCB management plan drafted.* *- First upgrade* *of the National PCB* *Management Plan at midterm based on preliminary inventory data.* *- Resulting one (1) individual PCB management plan drafted by participating companies at mid-term*	*- The national PCB management plan reviewed and adopted.* *- Second upgrade of the National PCB Management Plan at midterm based on inventory data.* *- Resulting (overall) two (2) individual PCB management plans drafted by participating companies (confirmed as a final achievement by terminal evaluation time)*	*Government-led communication strategy on national PCB related effort (legislation, technical regulations, PCB equipment inventory and phase-out/disposal/decontamination) is in place and implemented to ensure better support from PCB equipment/waste owners and other stakeholders.* *A fruitful cooperation among project staff, government, and key stakeholders on technical, legal and financial matter is ensured so that the PCB management plan is implementable and sustainable*
	2.3 An innovative public-private partnership for the management of PCB contaminated equipment and waste is established and supports national PCB disposal/decontamination effort.	*No public-private partnership established in the country for the management of PCBs.* *Cooperation with private sector is not strong to support effective national PCB disposal/decontamination effort.*	*- A public / private partnership for management of PCB contaminated equipment and waste established to conduct the activities related to ESM system on PCBs (completed at mid-term)* *- Business plan and sustainability plan for the public/private partnership drafted* *- Appropriate level national communication on the PCB management plan ensured for better cooperation with the private sector*	*- Business plan and sustainability plan for the public/private partnership verified and amended based on experience gathered in the 1st and 2nd years of project's activities.*	*A public private partnership to conduct ESM of PCB is more effective than a purely private or public institution due the fact that most PCB holders are public/private companies.* *Public institutions and private industry willing to establish a partnership to conduct ESM of PCB.*

Result	Objective and Outcome Indicators	Baseline	Mid-term Target	End of Project Target	Assumptions
Component/ Outcome 3 **Environmentally sound management (ESM) of PCBs**	*3.1 National PCB storage capacity, in terms of a mass of PCB equipment and waste that can be safely stored, of selected storage facilities in the country is available and up to international standards.* *Storage facilities are upgraded and monitored under the project for the safe storage of PCB equipment/oils/waste pending final disposal or decontamination procedures*	*Storage facilities available in industrial sites needing checking and upgrading, in some cases contaminated by PCBs.* *Some industrial companies plan dismantling of storage facilities after all identified PCBs are removed from their industrial territories*	*- Storage facilities for the temporary storage of PCB contaminated* *equipment are identified (to be completed at mid-term)* *- Upgrade of safety and emergency response in selected storage facilities* *- PPE equipment for personnel is available to ensure safe operations* *- Monitoring over quality of storage over time is ensured by enforcement authorities*	*- At least 2 storage facilities have been upgraded to ensure safe storage of PCB equipment and waste in fulfilment of national and international rules on PCBs.*	*Storage facilities needs only limited intervention to ensure the increase of their safety up to the required standards.* *Storage facilities can be upgraded and permitted within planned budget and timeframe.*
	Documentary and direct evidence that environmentally sound technologies or services for PCBs disposal/dehalogenation have been identified, assessed and procured	*No PCBs disposal technology available in the country to address pure PCB oils/waste* *No PCB dehalogenation technology is available in the country to address cross-contaminated PCB oils* *No PCB contaminated soil remediation technology is available in the country*	*- Identification and technical-economic feasibility analysis of disposal options based on the amount of pure and low-concentration* *PCBs identified (to be completed at mid-term)* *- Drafting of TORs for the procurement of PCBs disposal/decontamination service and equipment (to be completed at mid-term).* *- EIA process over decontamination plants carried out if needed to enable technology to operate locally (to be completed at midterm)*	*All planned preparatory already achieved at mid-term PCB dehalogenation technology is rented/installed in the country to treat low-concentrated PCB oils*	*UNDP experts and national stakeholders establish cooperation so that the technical specification and identification of proper technologies are really suited to the specific country situation and needs.* *Technologies for the safe disposal of waste with high PCB content – up to 60% - and for the treatment of equipment with low PCB content – up to few thousand ppm – are commercially available and vendors of these technologies will submit bids to UNDP tenders.*
	Amount of equipment or waste containing or contaminated by PCB disposed in an Environmental Sound Way	*Before GEF/UNDP project, around 173 tons of equipment containing PCBs sent abroad for disposal from 2007 to 2009.* *Similarly, around 36 tons of PCB contaminated soil sent abroad or disposal.*	*-For pure PCBs, existing qualified service providers informed and invited and tender for hazardous waste handling* *- The selected PCB decontamination technologies demonstrated in action as part of procurement activity for their reliability, environmental performance and compliance with national regulation, Stockholm and Basel conventions' requirements (to be completed at mid-term).* *- Associated sub-contracts for export of pure PCB waste and decontamination of low-concentrated in place, and pre-bid conferences for interested bidders held to improve quality of received bids*	*-Destruction /treatment of 700 tons of PCB contaminated equipment in progress with disposal certificates obtained* *- Disposal / treatment of 200 t of* *PCB containing waste including contaminated soil completed with disposal certificates obtained*	*UNDP uses experience from other projects to ensure the effectiveness and reliability of technology's choice for both pure/high-concentrated and low-concentrated wastes.* *Selected vendors already familiar with the requirements and activities related to testing of their technologies.* *PCB contaminated equipment and waste identified, safely stored and secured to their disposal No PCB waste transit limitations are in place to block waste export operations* *EIA/SIA assessments are completed to allow PCB dehalogenation technology to be put into operation for low concentrated PCB containing oils*

Result	Objective and Outcome Indicators	Baseline	Mid-term Target	End of Project Target	Assumptions
Component/ Outcome 4 Knowledge Management and M&E	*Documentary evidence that project's results sustained and replicated through proper M&E and Knowledge Management actions.*	*N/A*	*- Inception activities carried out, project management structure implemented, KM system including project website established (to be completed in the 1st year of project implementation)*	*N/A*	*All the relevant stakeholders well aware on GEF/UNDP rules as well as National Legislation, and willing to cooperate in the timely establishment of project management structures.*
		N/A	*- Project reporting and planning established and implemented*	*Project reporting and planning continued until project end*	*Project reporting and planning mechanisms and templates timely communicated and agreed with project management staff at all level.*
		N/A	*- Midterm Evaluation and auditing activities carried out.*	*- Terminal and auditing activities carried out; terminal reporting completed and submitted to GoM, UNDP and GEF.*	*Project stakeholders actively cooperating in all evaluation and auditing activities.* *Evaluation and auditing are carried out in an independent and professional way, with the purpose to enhance project activities and generate recommendations for project success and sustainability after project closure.*

Annex 8: Consultants' Agreement Forms

Evaluators:

1. Must present information that is complete and fair in its assessment of strengths and weaknesses so that decisions or actions taken are well founded.
2. Must disclose the full set of evaluation findings along with information on their limitations and have this accessible to all affected by the evaluation with expressed legal rights to receive results.
3. Should protect the anonymity and confidentiality of individual informants. They should provide maximum notice, minimize demands on time, and respect people's right not to engage. Evaluators must respect people's right to provide information in confidence and must ensure that sensitive information cannot be traced to its source. Evaluators are not expected to evaluate individuals and must balance an evaluation of management functions with this general principle.
4. Sometimes uncover evidence of wrongdoing while conducting evaluations. Such cases must be reported discreetly to the appropriate investigative body. Evaluators should consult with other relevant oversight entities when there is any doubt about if and how issues should be reported.
5. Should be sensitive to beliefs, manners and customs and act with integrity and honesty in their relations with all stakeholders. In line with the UN Universal Declaration of Human Rights, evaluators must be sensitive to and address issues of discrimination and gender equality. They should avoid offending the dignity and self-respect of those persons with whom they come in contact in the course of the evaluation. Knowing that evaluation might negatively affect the interests of some stakeholders, evaluators should conduct the evaluation and communicate its purpose and results in a way that clearly respects the stakeholders' dignity and self-worth.
6. Are responsible for their performance and their product(s). They are responsible for the clear, accurate and fair written and/or oral presentation of study imitations, findings and recommendations.
7. Should reflect sound accounting procedures and be prudent in using the resources of the evaluation.

Agreement to abide by the Code of Conduct for Evaluation in the UN System

Name of Consultant: Dalibor Kysela

Name of Consultancy Organization (where relevant)**:** N.A.

I confirm that I have received and understood and will abide by the United Nations Code of Conduct for Evaluation.

Signed at Vienna on 24 May 2019

Signature: _____

Evaluators:

1. Must present information that is complete and fair in its assessment of strengths and weaknesses so that decisions or actions taken are well founded.
2. Must disclose the full set of evaluation findings along with information on their limitations and have this accessible to all affected by the evaluation with expressed legal rights to receive results.
3. Should protect the anonymity and confidentiality of individual informants. They should provide maximum notice, minimize demands on time, and respect people's right not to engage. Evaluators must respect people's right to provide information in confidence and must ensure that sensitive information cannot be traced to its source. Evaluators are not expected to evaluate individuals and must balance an evaluation of management functions with this general principle.
4. Sometimes uncover evidence of wrongdoing while conducting evaluations. Such cases must be reported discreetly to the appropriate investigative body. Evaluators should consult with other relevant oversight entities when there is any doubt about if and how issues should be reported.
5. Should be sensitive to beliefs, manners and customs and act with integrity and honesty in their relations with all stakeholders. In line with the UN Universal Declaration of Human Rights, evaluators must be sensitive to and address issues of discrimination and gender equality. They should avoid offending the dignity and self-respect of those persons with whom they come in contact in the course of the evaluation. Knowing that evaluation might negatively affect the interests of some stakeholders, evaluators should conduct the evaluation and communicate its purpose and results in a way that clearly respects the stakeholders' dignity and self-worth.
6. Are responsible for their performance and their product(s). They are responsible for the clear, accurate and fair written and/or oral presentation of study imitations, findings and recommendations.
7. Should reflect sound accounting procedures and be prudent in using the resources of the evaluation.

Agreement to abide by the Code of Conduct for Evaluation in the UN System

Name of Consultant: Snezana Marstijepovic

Name of Consultancy Organization (where relevant)**:** _____

I confirm that I have received and unders understood and will abide by the United Nations Code of Conduct for Evaluation.

Signed on: 1st June 2019.

Signature: _____ SMarstijepović

Annex 9: Audit Trail (submitted as separate annex)

Annex 10: Midterm Review Report clearance form

Midterm Review Report Reviewed and Cleared by:

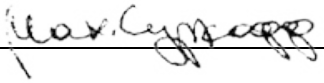
Commissioning Unit

Name_____

Signature_____ Date_____

UNDP-GEF Regional Technical Advisor

Name Maksim Surkov

Signature  Date 19-Nov-2019