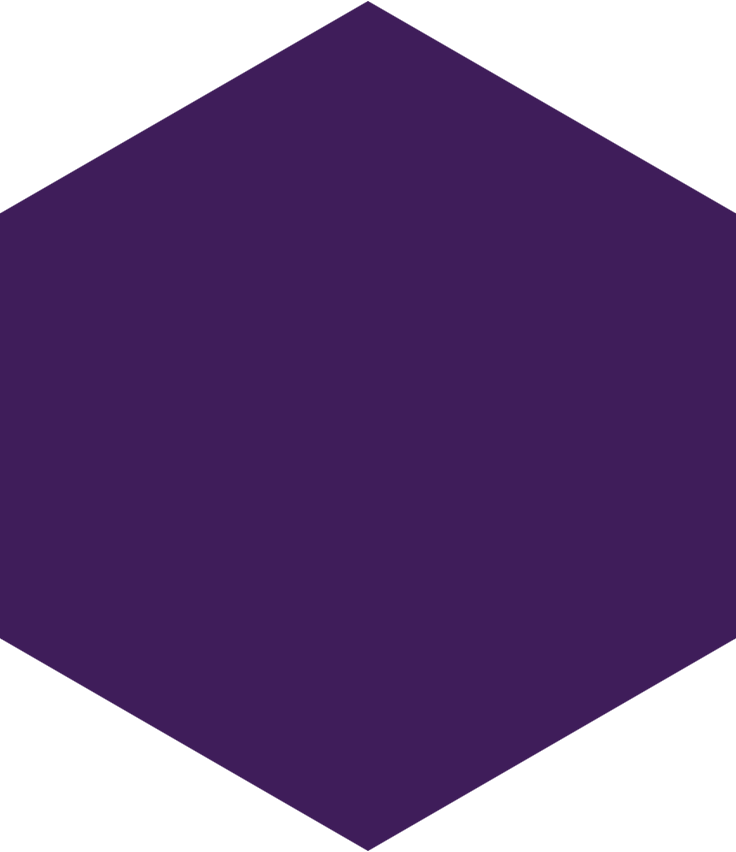
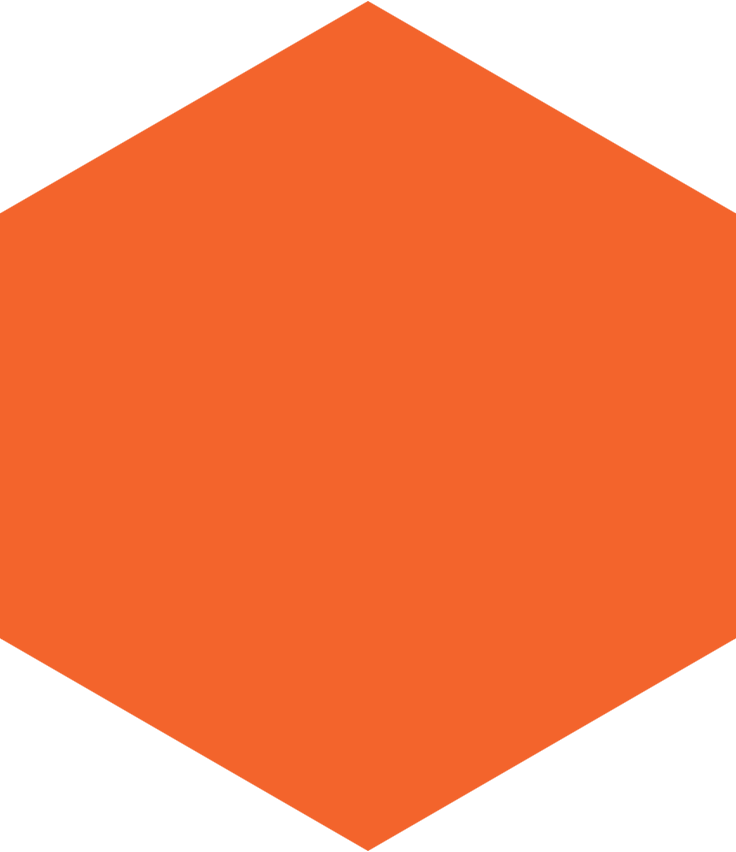
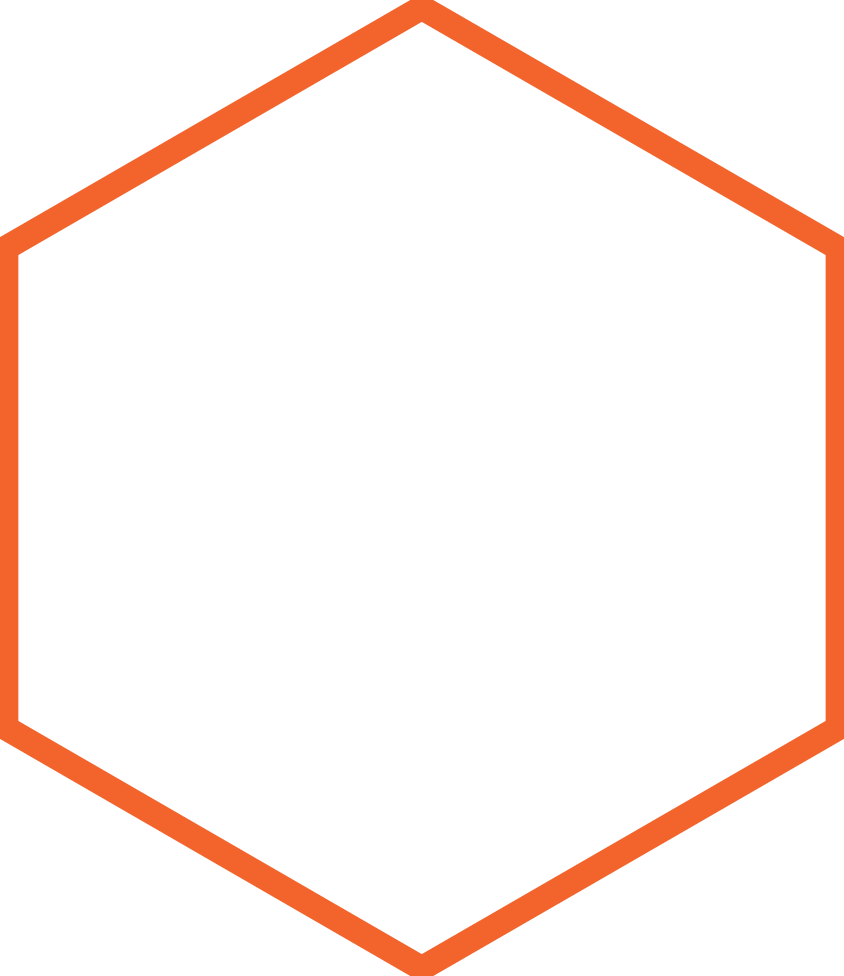
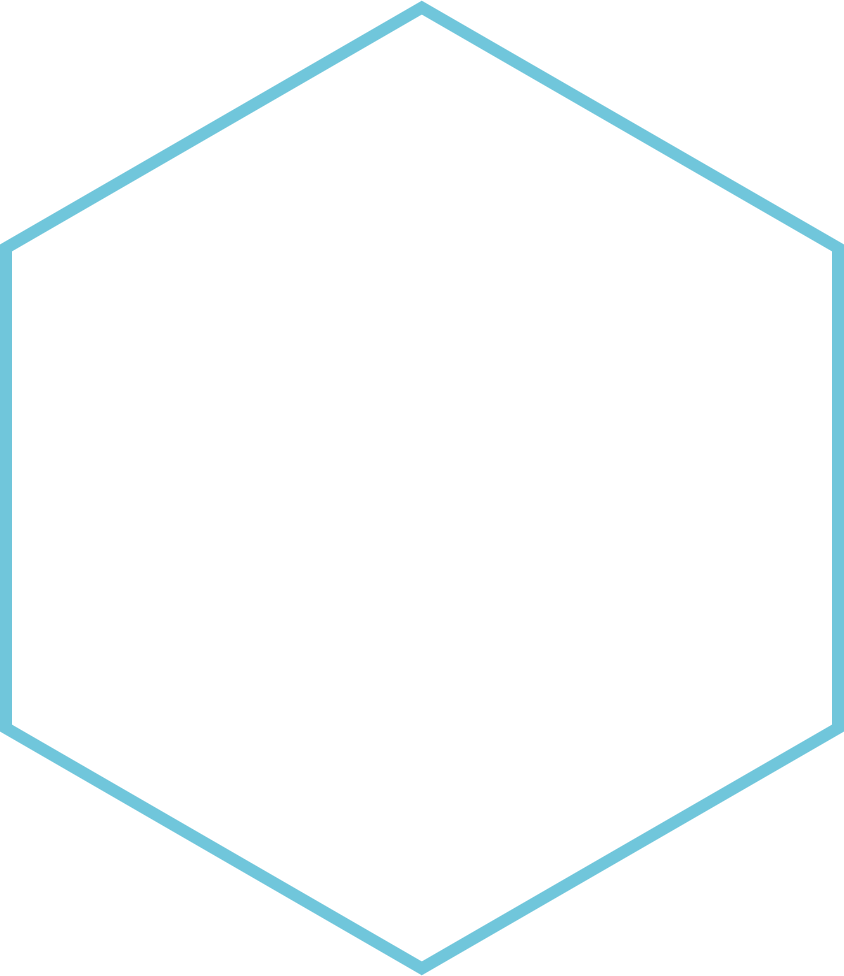


|  |
| --- |
| **Mid-term Evaluation of “Environmentally Sound Management of Persistent Organic Pollutants (POPs) in industrial and hazardous waste sectors” project.**  **June-July, 2022.**  **Bosnia and Herzegovina**  **Commissioned by UNDP** **Bosnia and Herzegovina** |
| International Consultant: Mohammad Alatoom  National consultant: Gordana Alibasic |
| **Project Title: Environmentally Sound Management of Persistent Organic Pollutants (POPs) in industrial and hazardous waste sectors. Atlas ID: 00118429 - Implementing Party: UNDP**  **Purpose of the project: The project aims to support elimination and reduction of releases of persistent organic pollutants (POPs) into the environment, which is in line with requirements of the Stockholm Convention**  **Project start date: 01/06/2019, Project end date: 01/06/2024.**  **Project total budget: $ 6,539,562.17 Source of funding: Government of Sweden and Fund for Environment Protection and Energy Efficiency of RS.** |
|  |





**Content**

[**Disclaimer** 3](#_Toc112000913)

[**Executive summary** 8](#_Toc112000914)

[**1.** **Project background** 12](#_Toc112000915)

[1.1 Project background 12](#_Toc112000916)

[1.2 Project objectives and outcomes 12](#_Toc112000917)

[**2.** **Evaluation scope** 16](#_Toc112000918)

[2.1 Evaluation criteria and questions 17](#_Toc112000919)

[2.2 Cross-cutting issues 18](#_Toc112000920)

[**3.** **Evaluation approach and methodology** 19](#_Toc112000921)

[3.1 Evaluation methods 19](#_Toc112000922)

[3.2 Data analysis 21](#_Toc112000923)

[**4.** **Findings** 21](#_Toc112000924)

[4.1 Relevance 21](#_Toc112000925)

[4.2 Coherence of the programme design 27](#_Toc112000926)

[4.3 Effectiveness 33](#_Toc112000927)

[4.4 Impacts 64](#_Toc112000928)

[Reduce exposure to POPs impacts 64](#_Toc112000929)

[Increase awareness and understanding 69](#_Toc112000930)

[Capacity development 70](#_Toc112000931)

[Reduce COVID impacts 71](#_Toc112000932)

[4.5 Efficiency 73](#_Toc112000933)

[4.6 Sustainability 77](#_Toc112000934)

[**5.** **Recommendations** 82](#_Toc112000935)

[**6.** **Lessons learned** 84](#_Toc112000936)

[Appendixes 86](#_Toc112000937)

[Appendix 1: Evaluation Terms of Reference (TOR) 86](#_Toc112000938)

[Appendix 2: Detailed results framework of the project 111](#_Toc112000939)

[Appendix 3 –Evaluation matrix 143](#_Toc112000940)

[Appendix 5 list of stakeholders interviewed for this evaluation 146](#_Toc112000941)

[Appendix 6: List of documents reviewed 148](#_Toc112000942)

[Appendix 7 – Interview guides 149](#_Toc112000943)

[Introduction 149](#_Toc112000944)

[Interview questions 149](#_Toc112000945)

[Appendix 8: Survey design 150](#_Toc112000946)

[Survey: beneficiaries *(targeted those who have been already engaged from the list in table 5)* 151](#_Toc112000947)

[Appendix 9: Evaluation Consultant Code of Conduct Agreement Form 152](#_Toc112000948)

**Acknowledgements**

The Evaluation team would like to express gratitude to all of the project teams, partners and stakeholders who participated in the evaluation. In particular to the project management unit for facilitating the evaluation activities, as well as the UNDP country offices and Management Teams.

**Disclaimer**

This report is the work of independent consultants, and doesn’t necessarily represent the views, policy or intentions of UNDP, the participating Governments, and project partners. The opinions and recommendations in the evaluation will be those of the Evaluators and do not necessarily reflect the position of UN agencies, or any of the project stakeholders.

**List of acronyms**

**BAT** Best Available Techniques

**BD** Brcko District of Bosnia and Herzegovina

**BEP** Best Environmental Practice

**BHAS** Agency for Statistics of Bosnia and Herzegovina

**BiH** Bosnia and Herzegovina

**C-PBDE** Polybrominated diphenyl ethers

**CDD**  Chlorinated dibenzo-p-dioxins

**CoM** Council of Ministers of Bosnia and Herzegovina

**CDF** Chlorinated dibenzofurans

**CPRAC**  Agency for Cleaner Production Regional Activity Centre of Bosnia and Herzegovina

**Custom** Indirect Taxation Authority of BiH

**DDT**  Dichlorodiphenyltrichloroethane

**DIM** Direct Implementation Methodology

**DSPPA** Department for Spatial Planning and Property Affairs of the Brcko District Government

**DHOS**  Department of Health and Other Services of the Brcko District Government

**EAS**s Environmental Approximation strategies of BiH

**EC** European Community

**EEA** European Environment Agency

**ELV** End of Life Vehicles

**EMPs** Environnemental Management Plans

**EU**  European Union

**FBiH** Federation of Bosnia and Herzegovina

**FMAWMF**  Federal Ministry of Agriculture, Water Management and Forestry

**FMEMI** Federal Ministry of Energy, Mining and Industry

**FMET**  Federal Ministry of Environment and Tourism

**FMH** Federal Ministry of Health

**gTEq/a** Grams of the toxic equivalent I-TEQ per year

**GEF** Global Environment Facility

**HCWM** Health care waste management

**ILO**  International Labour Organization

**ISO** International Organization for Standardization

**ITA**  Indirect Taxation Authority

**JICA** Japan International Cooperation Agency

**KEMI** Swedish Chemicals Agency

**M&E** Monitoring and Evaluation

**MAFWM** Ministry of Agriculture, Forestry and Water Management of Republika Srpska

**MIEM** Ministry of Industry, Energy and Mining of Republika Srpska

**MPPCEE** Ministry of Physical Planning, Civil Engineering and Ecology of Republika Srpska

**MRL**  Maximum Residue Levels

**MoFTER** Ministry of Foreign Trade and Economic Relations of Bosnia and Herzegovina

**MHSW** Ministry of Health and Social Welfare of Republika Srpska

**MHFBiH** Ministry of Health of Federation of Bosnia and Herzegovina

**NATO** North Atlantic Treaty Organization

**NEAP** National Action Plan on Environmental Protection in BiH

**NIVA**  Norwegian Institute for Water Research (Norsk Institutt for Vannforskning)

**NFP** National Focal Point

**NGO** Non-governmental organization

**NIP** National Implementation Plan for the Stockholm Convention

**PBDE** Polybrominated diphenyl ethers

**PCB** Polychlorinated biphenyls

**PCDD**  Polychlorinated dibenzo-p-dioxins

**PCDD-F**  Dioxins

**PCDF** Polychlorinated dibenzofurans

**PCT**  Polychlorinated terphenyls

**PCN**  Polychlorinated naphthalene

**PHI RS** Public Health Institute of Republika Srpska

**PHI FBiH** Public Health Institute of FBiH

**PHPA** Plant Health Protection Administration of Bosnia and Herzegovina

**PFOS** Perfluorooctane sulfonate

**PFOSF**  Perfluorooctanesulfonyl fluoride

**POPs**  Persistent Organic Pollutants

**PPA**  Phyto-Pharmaceutical Agents

**PPR** Project Progress Reports

**PRTR**  Pollutant Release and Transfer Register

**RECETOX** Research Centre for Toxic Compounds in the Environment

**RS**  Republika Srpska

**SAA** Stabilisation and Association Agreement

**SC** Stockholm Convention

**SCCP** Short-chain chlorinated paraffins

**SDGs** Sustainable Development Goals

**SIDA** Swedish International Development Cooperation Agency

**SPMD** Semipermeable Membrane Device

**SWM** Second Solid Waste Management

**SSC/TrC** South-South and Triangular Cooperation

**SOER** State of the Environment Report

**TEQ** Toxic Equivalent

**TPP** Thermal Power Plant

**UN**  United Nations

**UNECE**  United Nations Economic Commission for Europe

**UNEP** United Nations Environment Programme

**UNDP** United Nations Development Programme

**UNDP-CO** United Nations Development Programme Country Office

**UNIDO** United Nations Industrial Development Organization

**U-POPs** Unintentional POPs

**WB** World Bank

**WEEE** Waste from Electrical and Electronic Equipment

**WED** World Environment Day

**WFD** Water Framework Directive

**WHO** World Health Organization

**List of tables**

[Table 1 Project contributions to SDGs 26](#_Toc108626131)

[Table 2: Examples from the field on reducing farmers’ exposures to hazardous waste 65](#_Toc108626132)

[Table 3: Examples of health system support 71](#_Toc108626133)

[Table 4: Project financial delivery report 74](#_Toc108626134)

**List of figures**

[Figure 1: Beneficiaries survey responses to a question how relevant UNDP project to your needs (n=31). 25](#_Toc112000895)

[Figure 2: Schematic presentation of the theory of change 30](#_Toc112000896)

[Figure 3 The coordinating structure (horizontal and vertical) for the implementation of the Stockholm Convention in BiH is presented 36](#_Toc112000897)

[Figure 4: Project stakeholders and beneficiaries’ perception on the legal system (n=31) 38](#_Toc112000898)

[Figure 5 training participant’s perception on the usefulness of the acquired knowledge 43](#_Toc112000899)

[Figure 6: Pictures of promotional material produced by the project 59](#_Toc112000900)

[Figure 7: Pictures of equipment and tools provided by the project (in order: Autoclave for sterilization, Waste sterilizer, Waste shredder machine, and Specialized ADR vehicle for transport of infections waste 61](#_Toc112000901)

[Figure 8: Beneficiaries perception on the reduction of the exposure to the impacts of hazardous waste 65](#_Toc112000902)

[Figure 9: Incel conceptual map 69](#_Toc112000903)

[Figure 10: beneficiaries perception on the level of the understanding of the hazardous waste impacts (n=31). 69](#_Toc112000904)

[Figure 11: Beneficiaries’ perceptions on the key elements of capacity building (n=31). 70](#_Toc112000905)

[Figure 12: Project beneficiaries’ perception on the project support to combat COVID (n=31). 72](#_Toc112000906)

[Figure 13: Beneficiaries survey responses on project management collaboration (n=31). 79](#_Toc112000907)

[Figure 14 Survey responses of the ability to continue to have the capacity to manage the hazardous waste at our facilities after the UNDP project ends (n=31). 80](#_Toc112000908)

# **Executive summary**

**Background:** The five-year Project “Environmentally Sound Management of Persistent Organic Pollutants (POPs) in Industrial and Hazardous Waste Sectors” (POPs Project) is financed by the Government of Sweden and implemented by UNDP. The Project’s budget amounts to USD 6,539,562.17 including co-funding from the Fund for Environment Protection and Energy Efficiency of Republika Srpska (RS).

The main goal of the Project is to support elimination and reduction of releases of persistent organic pollutants (hereinafter POPs) into the environment, which is in line with requirements of the Stockholm Convention (hereinafter the Convention). Bosnia and Herzegovina (BiH) signed the Convention in 2001 and ratified it in 2010. By doing so, the country obliged to fulfil the requirements of the Convention which, inter alia, include avoidance of the use of hazardous POPs, shifting towards safer alternatives and removal of old supplies and equipment that contain these substances. The Convention lists 28 POPs in total, whereas five POPs had been added after the Seventh Conference of the Parties held in 2017.

**Scope:** The MTE purpose is to provide evidence-based information that is credible, reliable and useful and comply with UNDG Evaluations Standards. The evaluation was undertaken in line with UNDP principles concerning independence, credibility, utility, impartiality, transparency, disclosure, ethical, participation, competencies and capacities. The evaluation used mixed methods for data collection (document review, surveys and interviews) as well as general best practices of evaluation to gather qualitative and quantitative data that focus on the purpose of the evaluation and answer all of the evaluation questions from the TOR.

**Evaluation approach:** This evaluation uses a mix qualitative-quantitative methods to best describe project results based on the results framework as outlined in the project document. The evaluation used mixed methods including document review, surveys and interviews as well as general best practices of evaluation to gather qualitative and quantitative data that focus on the purpose of the evaluation and answer all of the evaluation questions from the TOR.

**Findings**

Relevance: The project is overall in line with the requirements set down by international agreements signed and ratified by BiH and meets the national needs for the fulfilment of the commitments acquired in the framework of the Stockholm Convention on persistent organic pollutants (POPs). The project objectives and activities are fully aligned with and directly relevant to National Implementation Plan (NIP) of Stockholm convention in BiH and also relevant to the beneficiaries needs.

Coherence: The project design has strengths and weaknesses. The strengths are that the project document included robust information about the problem to be addressed, objective, outputs and to a certain degree the long-term impacts. This information has been pulled together in a Theory of Change (ToC) section and presented links between project activities and expected impacts, with relatively SMART output-based indicators. Also, the project design followed a participatory process with involvement of key national stakeholders to ensure that it aligns to national priorities.

The project design weaknesses are mainly attributed to the absence of appropriate funding model for the ultimate disposal of the POPs and POPs-contaminated equipment, the project management has adapted to this by achieving $300K savings that are now allocated to the disposal process to meet the 50 ton target.. Also, the project design could have leveraged the theory of change and defined more outcomes and impacts indicators to enable impact measurements, especially to optimise behavioural changes (examples provided below). The Social and Environmental Standards screening didn’t seem to identify and address the social and environmental risks appropriately, specifically those health, safety and well-being associated with handling POPs under “Standard 3: Community Health, Safety and Working Conditions”.

The project design has gone through a journey of updates, and two additional components in two separate occasions were added to the project document so far to accommodate emerging needs of 1) Development of the Inventory of cooling equipment using ozone depleting substance (ODS), and 2) Support authorities and communities to combat the COVID pandemic.

Effectiveness: There is satisfactory progress towards MTE targets with 95% of MTE measurable targets are either on track or fully achieved (37 out of 39), while 5% of the targets (2 out of 39) are assessed to be off track. There are number of significant milestones achieved so far including the drafting the new legislations that opens the door for other important activities, the inventory of POPs, the pesticides containers pilot, the remediation plan for Incel that would enable reducing human health risk, green chemistry principles integration and preparation for the audit, COVID immediate response, ODS legislation and inventory as well as multiple capacity building activities.

The key areas where the project is lagging are finalising the legislations (i.e endorsement), preparations for physical disposal of contaminated equipment, and incentive mechanism to ensure sustainability and replicability of green chemistry initiative in the manufacturing industry. Endorsing the new legislation remains a priority in the short-term and a challenge in the current political environment, and enforcement capacities are not yet assessed nor addressed.

The effectiveness of the project delivery has been challenged by COVID 19, availability of technically sound expertise, complexity of the political environment in BiH, media pressure to prioritise some public facing activities, and difficulties in balancing the engagement among stakeholders in a way that respects all stakeholders mandates, clarity on roles and responsibilities.

Impacts: There is ample evidence that the project achieved impacts related to reduce the exposure to hazardous waste through increasing awareness and capacity building, and more reduction in exposure is anticipated when the final disposal of POPs takes place. The exposure of a 3,000 daily users of Incel site to hazardous waste has been mitigated and will be further eliminated once remediation is completed. Farmers changing practice in dealing with pesticides containers as well reduced exposure to the hazardous material, in addition to increasing awareness and capacities of stakeholders in managing hazardous waste. Also, the project contributed to reduce the health impacts of COVID by supporting medical waste management and treatment at facilities and homes.

The main challenge to long-term impact of the project is the collection, consolidation, temporary storage and ultimate disposal of the stockpiles of POPs-contaminated material, specifically PCBs-contaminated transformers. Implementation of the project activities focused exclusively on preparation of POPs waste for ultimate disposal abroad and no financing solutions until now defined for the disposal.

Efficiency: Despite hiccups on the way (e.g COVID), the project is considered to be on time and on budget towards achieving its targets by the end of the project timeframe, and it has adequate project management arrangement, monitoring and reporting in place. The evaluation notes an opportunity for further promoting the ownership of the project board by further engagement on the financial delivery and transparency.

The project’s management has been adaptive and able to demonstrate flexibility in making changes if, and when, necessary to do so in order to keep the project up to date and keep it capable of producing the desired outputs as envisaged originally, this included change on the project scope by adding two additional components to meet emerging needs from the Ozon Depletion Substances (ODS) and COVID response, re-prioritize Incel remediation plan to deal with the emergency situation and the significant health risk after the site has been exposed to fire and re-shaping the project management team to cope with the project demand.

Sustainability: There are number of factors contributing to the sustainability of the project benefits, these include new legal frameworks (once endorsed), capacity development (training outcomes) and POPs reporting procedures, coherent partnerships and effective working groups, Government ownership and the fact that outcomes and outputs are firmly imbedded institutionally and in the strategic NIP plan of BiH.

The project is facing sustainability concerns mainly related to 1) Unclear resourcing framework for the long-term disposal of the POPs in environmentally sound manner beyond the project timeframe as this is now clearly becoming impediment that imposes serious risk on achieving final disposal target and meeting the Stockholm convention deadlines for PCBs disposal, 2) Consensus on, and final endorsement of, the newly introduced POPs-related legislation and associated enforcement capacities, 3) continuation of the collection and transportation of the pesticides containers beyond the project timeframe and funding and 4) operationalisation of the remediation after the remediation designs have been completed.

The project needs to further promote BiH participating Governments ownership and accountabilities. some of the interviewed stakeholders have expressed valid concerns on the project branding being limited to UNDP and the Swedish Government without inclusion of the logos of the participating Government agencies as key counterparts or indeed ultimate owners of the project products and benefits.

**Recommendations** (***further explanations available in section 5 of this report***): Based on the findings, and in line with some of the lessons learned outlined, this sub-section proposes some recommendations for actions aiming at improving the project delivery.

1. Develop, negotiate and obtain agreement on a financing model for the POPs disposal stage beyond project targets:
2. Promote the “Polluter Pays” principle through which polluters are incentivized to avoid environmental damage and are held responsible for the pollution that they cause. Promoting this principle could be achieved by 1) integrating the Polluter Pays Principle into new legislation (which will also achieve alignment with EU policies), 2) direct engagement with the polluters to confirm their accountability, and 3) investigate incentives for polluters to engage such as third-party funding (potentially GEF), tax exemption.
3. Develop a phase-out schedule of PCB contaminated equipment to create considerable pressure on budgets of the equipment owners as decommissioning will require replacement by non-PCB equipment and costs of the final disposal to be able to meet the Stockholm convention deadline for PCB disposal (i.e 2025).
4. Assess authorities’ enforcement capacities of new legislations and develop a capacity building plan specifically addressing enforcement capabilities
5. Strengthen the project board’s role and ownership by further engagement on decision making and oversight on the financial delivery and transparency, reassuring and clarifying the significance of the board, standardize inclusive branding policy for the project products to include all participating Government, including re-branding, where possible, the existing project publications to include the logo of the participating Governments – especially the online virtual POPs platform.
6. Strengthen the linkages among policy making institutions and academic institutions through defining priority policy-oriented research needs and establishing sustainable collaborations mechanisms with research institutions - subject to funding availability.
7. Develop and agree on post-project modality for continuation of the containers management scheme. This can be achieved by 1) extend the containers disposal pilot to the end of the project timeframe, 2) continue consultation through the WCMS strategy with retailers, farmers, importers, local authorities and other stakeholder to establish a sustainable disposal process.
8. Investigate legislation review needs to enable the operationalisation of the remediation process based on the project remediation design. The review of relevant legislation should be also accompanied with the owners/manager of targeted sites to enable smooth implementation including system of incentives for remediations.
9. Empower the civil society sector to play a role in POPs management, this involves identifying relevant environmental NGOs and engaging them in project activities that empower them to play a proper watchdog role.
10. Update the social and environmental screening to recognize the health and safety risk of handling the POPs by project contractors and set health and safety mitigation measures, and to ensure close attention to the work of sub-contractors and careful selection of partners with due diligence.
11. Further investment in increasing visibility of the project activities in the formal media and social media platforms. Specific workshops to engage with media and educate them on reporting POPs-related matters.
12. With COVID restrictions started to relax, increase face to face engagement with stakeholders, specifically contractors to interact directly in the field with stakeholders to collect more accurate data.
13. Coordinate with the new GEF project that aims at updating the NIP, specifically the work on the POPs inventory would be of a common interest, and investigate opportunities for complementarities. The new GEF project could be the new platform to drive some strategic discussions around the sustainability of this project benefits including future financing of the POPs disposal.
14. Initiate the workstream to support local laboratories to establish local sampling and analysis capacities. This should involve conducting a desktop review of laboratories in BiH competent and interested in sampling and analyses of POPs to undergo trainings, and consulted with the relevant working groups whether there are laboratories in BiH that perform sampling and analyses of POPs.

# **Project background**

## Project background

The main objective of the Stockholm Convention is to take measures for the elimination or restriction or prevention of the production, import, export and use of all manufactured POPs (pesticides and industry chemicals) and the continuous reduction to minimize the occurrence of these pollutants in the environment, and the elimination of emissions of unintentionally produced POPs (such as dioxins, furans, as well as hexachlorobenzene and PCBs that occur in industrial processes).

All these substances, listed under the Stockholm convention on POPs, pose a global threat to the environment and human health due to their long persistence in the environment, their long-term and cumulative toxic properties and their capacity to bioaccumulate in living organisms.

Consequently, proper introduction and implementation of Stockholm convention demand for collaboration and synergetic action of relevant institutions from several sectors and at different governmental levels in BiH.

Decentralized organization of the country (BiH is composed by the two (2) entities and one district: Federation of BiH, RS and Brčko District), which is often leading to overlapped jurisdictions and inconsistent regulatory frameworks in fields of environment, chemicals and waste, including the comprehensive scope of the Stockholm convention implies large number of target groups which are influenced by and have legitimacy to contribute to the proper implementation of this Convention in BiH.

As per the conclusions adopted by the Council of Ministers from 2002, the Ministry of Foreign Trade and Economic Relations of BiH was nominated as focal point for coordinating the cooperation with international organizations and authorities of the Stockholm Convention. Following institutions, responsible for the implementation of the Convention in BiH, and thus the main institutional beneficiaries of this Project are:

– The Ministry of Foreign Trade and Economic Relations of BiH;

– Federal Ministry of Environment and Tourism;

– The Ministry of Physical Planning, Civil Engineering and Ecology of RS;

– The Department of Spatial Planning and Property Affairs of the Brčko District Government.

However, certain obligations arising from the provisions of the Convention in the management of POPs chemicals through the stages of the life cycles of these chemicals are the responsibility of other state and entity bodies. As given in the table below, these responsibilities refer to the issues of trade, production, use, unintentional production, import and export, waste disposal and inspection. Following table provides information on relevant institutions as per different fields, relevant to the provisions of the Stockholm Convention, and at all governmental levels in BiH.

## Project objectives and outcomes

UNDP’s Environmentally Sound Management of Persistent Organic Pollutants (POPs) in industrial and hazardous waste sectors (POPs Project) intends to prevent the release of POPs in the environment through the implementation of green chemistry initiatives in the industry and agriculture along with destruction of identified POPs waste stockpiles.

The five-year Project “Environmentally Sound Management of Persistent Organic Pollutants (POPs) in Industrial and Hazardous Waste Sectors” (POPs Project) is financed by the Government of Sweden and implemented by UNDP. The Project’s budget amounts to USD 6,539,562.17 including co-funding from the Fund for Environment Protection and Energy Efficiency of RS.

The main goal of the Project is to support elimination and reduction of releases of persistent organic pollutants (hereinafter POPs) into the environment, which is in line with requirements of the Stockholm Convention (hereinafter the Convention). BiH signed the Convention in 2001 and ratified it in 2010. By doing so, the country obliged to fulfil the requirements of the Convention which, inter alia, include avoidance of the use of hazardous POPs, shifting towards safer alternatives and removal of old supplies and equipment that contain these substances. The Convention lists 28 POPs in total, whereas five POPs had been added after the Seventh Conference of the Parties held in 2017.

The Project has the following components:

* Component 1: Capacity Building and mainstreaming of POPs related legislation into the process of harmonization of the BIH environmental legislation,
* Component 2: Prevention and monitoring of Unintentional POPs (U-POPs) generation and of release of POPs through minimization, segregation, and environmentally sound management of selected hazardous waste,
* Component 3: Implementation of green chemistry principles in plastic manufacturing to prevent the use of and release of new POPs including the candidate deca Polybrominated diphenyl ethers (PDBE) and Short-chain chlorinated paraffins (SCCP),
* Component 4: Management and disposal of PCBs and POPs from abandoned industrial premises,
* Component 5: Monitoring, Learning, adaptive feedback, outreach and evaluation,
* Component 6: Development of the inventory of cooling equipment which create ozone depleting substances -ODS), and
* Component 7: Responsible management of potentially infectious waste in relation to the COVID-19 public health crisis.

The Project is implemented in partnership and collaboration with respective partner institutions from the Government: Ministry of Foreign Trade and Economic Relations of BiH (MoFTER); Ministry for Spatial Planning, Construction and Ecology of RS, Ministry of Environment and Tourism of the FBiH, Environment Protection in the Department for Spatial Planning and Property Affairs in Brcko District, Environmental Fund of the FBiH, and Environmental Protection and Energy Efficiency Fund of RS.

In addition to government institutions and civil servants, the beneficiaries of the Project are in both the public and private sectors, including the general public, vulnerable groups, workers, educators, NGOs. Target groups also include business entities and medium-sized enterprises in BiH dealing with waste management, export of hazardous waste and manufacturers of equipment that contains POPs.

The project officially started on June 1st, 2019, and is due to be complete on June 1st 2024 (i.e 5-year project).

reduced only if the POPs related legislation is mainstreamed into the process of inter-institutional and the BIH environmental legislation is harmonized with EU standards, if the PCDD/F release is avoided through the establishment of capacity for the proper segregation and management of waste generating U-POPs and if the green chemistry principles are adopted in the emerging plastic manufacturing sector, contributing to the avoidance of the use of at least 10 tons of PBDE, deca PBDE and short chain chlorinated paraffins.

The desired higher-level change will be attained only if the coordination structure for the implementation of the convention (horizontal and vertical) is established to ensure that POPs related legislation is mainstreamed in to the process of inter-institutional and EU harmonization of the BIH’s environmental legislation and if the Stockholm Convention is mainstreamed in the environmental legislation of the 2 entities and Brčko District. The process will be facilitated by adequate monitoring with a software/ database on POPs, that will be developed and made available to the stakeholders.

The PCDD/F release will be avoided through the establishment of capacity for the proper segregation and management of waste generating U-POPs, including capacity building, better segregation of waste streams instalment and demonstration of disposal technologies and the implementation of environmentally sound management of plastic waste contaminated by pesticides.

Green chemistry principles will be adopted in the emerging plastic manufacturing sector with the avoidance of the use of at least 10 tons of PBDE, deca PBDE and short chain chlorinated paraffins if the specific capacities are strengthened in the plastic manufacturing industry (part of the experts trained will be professors as well as higher education staff) and if non-POP alternative to flame retardants introduced in plastic manufacturing with the replacement of at least 5 t of C-PBDE and at least 5 t of SCCP yearly.

Inventory and disposal of PCBs and POPs from abandoned industrial premises will be inspected, assessed for the presence of POPs, and listed in a data base.

The envisaged activities will be followed by monitoring and post-implementation quality assurance to ensure beneficiary satisfaction with the relevance and quality of the assistance provided by the Project.

This intervention rests on the assumption that there is a strong government ownership to meet commitments to the Stockholm Convention and that the coordination structure for the implementation of the Convention (horizontal and vertical) is established to ensure that POPs related legislation is mainstreamed in to the process of inter-institutional and EU harmonization of the BIH’s environmental legislation and if the Stockholm Convention is mainstreamed in the environmental legislation of the 2 entities and Brčko District.

Project outputs:

Component 1: Capacity building and mainstreaming of POPs related legislation into the process of harmonization of the BiH environmental legislation

Outcome 1: POPs related legislation mainstreamed into the process of inter-institutional and EU harmonization of the BIH environmental legislation and POPs inventory/registry developed

Output 1.1: Coordination structure for the implementation of the Convention (horizontal and vertical) established to ensure that POPs related legislation is mainstreamed into the process of inter-institutional and EU harmonization of the BiH`s environmental legislation

Output 1.2: Stockholm Convention mainstreamed in the environmental legislation of the 2 entities and Brčko District.

Output 1.3: Training on the integration of the Stockholm Convention with the EU and different level of governments in BiH (BiH, FBIH, RS and BD) legislation on chemical and waste for environmental decision makers carried out

Output 1.4: A database on POPs, containing also information on new POPs not fully addressed in the NIP is developed and made available to stakeholders and listed in database. At least two major abandoned industrial sites inspected and included in Inventory on POPs

Output 1.5: POPs containing waste or equipment disposed of through packaging and shipping to disposal facilities, compliant with the Stockholm Convention and Basel Convention’s requirements

Component 2: Prevention and monitoring of U-POPs generation and of release of POPs through minimization, segregation and environmentally sound management of selected hazardous waste stream

Outcome 2.1: Around 2g TEq of PCDD/F release avoided through the establishment of capacity for the proper segregation and management of waste generating U-POPs Indicator: Proper segregation and management of waste established

Output 2.1.1.: Dioxins` (PCDD/F) release avoided through the implementation of environmentally sound management of plastic waste contaminated by pesticides

Outcome 2.2: Capacity for monitoring of POPs and U-POPs in the environment and at the originating sources established

Output 2.2.1: Laboratory trained on sampling and analyses of POPs and U-POPs in the environment and on the stack of industrial sources. Sampling and analyses of POPs (U-POPs in the atmosphere and POPs pesticide in soil) carried out

Outcome 2.3: Illegal import or marketing of chemicals and goods containing or contaminated by POPs prevented

Component 3: Implementation of green chemistry principles in plastic manufacturing to prevent the use of and release of new POPs, including the candidate deca PBDE and SCCP

Outcome 3: Green chemistry principles adopted in the emerging plastic manufacturing sector with the avoidance of the use of polybrominated diphenyl ethers (PBDE), deca PBDE and short chain chlorinated paraffins (SCCP)

Output 3.1: Training on green chemistry in plastic manufacturing

Output 3.2: Non-POP alternative to flame retardants introduced in plastic manufacturing

Output 3.3: Development of incentive mechanisms to ensure sustainability and replicability of green chemistry initiative in the manufacturing industry

Component 4: Management and disposal of PCBs and POPs from abandoned industrial premises

Outcome 4: Risk assessment conducted, and remediation designs developed for at least two contaminated site

Output 4.1.1: Risk assessment conducted, and remediation designs developed for at least 2 POPs contaminated sites

Component 5. Monitoring, learning, adaptive feedback, outreach and evaluation

Outcome 5.1: Project results monitored, adaptive management applied, lessons-learned, experiences, and best practices extracted and disseminated at BiH wide and regional level

Output 5.1.1: Adaptive management applied, lessons-learned, best practices and experiences collected and disseminated at BiH wide and regional level to support replication

Component 6. Development of inventory of cooling equipment using ozone depleting substances

Outcome 6.1: Emissions of ozone-depleting substances (ODSs) avoided through the establishment of capacity for proper segregation and management of appliances and equipment containing ODSs

Output 6.1.1: Emissions of ODSs prevented and management of ODSs improved

Outcome 6.2: Capacity for monitoring of ODSs in relevant value-chains established

Component 7. Responsible management of potentially infectious waste in relation to the covid-19 public health crisis

Outcome 7.1 Authorities are supported to provide inclusive and multi-sectoral crisis management and response to COVID-19, particularly regarding medical waste management.

Output 7.1.1: Households with COVID-19 positive members or those in self-isolation dispose of their waste responsibly and safely, while the general population is aware of the responsible behaviour in terms of waste disposal during the public health crisis

Output 7.1.2: Current medical waste management practices and facilities in health care institutions in the most COVID-19 affected areas are rapidly assessed and capacitated to accommodate the newly-generated waste, as well as prepare the system for events of similar nature in the future.

Output 7.1.3: Public utilities for waste management are capable to effectively and safely provide waste services in the public health crisis.

# **Evaluation scope**

The main purpose of this Mid-term Evaluation (MTE) is to assess progress towards the achievement of the Project’s outputs/outcomes (as per the Project result framework) and identify potential challenges in Project implementation so far. It will assess intermediate signs of Project success or failure with an aim of recommending eventual course corrections in the second half of the Project lifetime and, if necessary, set the Project on-track in order to increase the probability for achieving its intended results by the end of its duration. The MTE will also review the Project’s implementation strategy, and its risks to sustainability. The MTE will assess the relevance, coherence, efficiency, effectiveness, sustainability and impact of the Project, and provide strategic recommendations for future decision-making in the sectors covered by the Stockholm Conventions, for institutional partners, UNDP, Government of Sweden and other relevant stakeholders.

The MTE will focus on assessing the overall performance of the Project and its results generated from the beginning to the mid-point of the Project implementation, based on the scope and criteria set forth in this term of reference.

In a substantive review of the effectiveness of the Project approach, the MTE should assess cause and effect relations within the Project, identifying the extent to which the observed changes can be attributed to its interventions. The selected Evaluation Team will take a broad overview of the Project area by gathering perceptions, aspirations, feedback and data from relevant partners, stakeholders and beneficiaries for objective analysis and conduct of the evaluation.

This MTE’s objective is to:

* + Provide forward-looking recommendations to the Government of Sweden and UNDP on the sustainability of the Project results and its scaling up potentials.
  + Provide evidence of results to meet accountability requirements, and
  + Promote learning, feedback, and knowledge sharing through results and lessons learned among UNDP and the donor and their national partners such as the government counterparts.

The MTE will assess the achievement of project results against what was expected to be achieved, and draw lessons that can both improve the sustainability of benefits from this project, and help in the overall enhancement of UNDP programming. The MTE report will promote accountability and transparency, and assesses the extent of project accomplishments.

The evaluation will assess the extent to which the planned Project outcomes and outputs have been achieved since the beginning of the Project in June 2019 and likelihood for their full achievement by the end of the Project in June 2024 (based on the Project Document and its results framework).

The MTE will look into the Project’s processes and activities, strategic partnerships and linkages in the specific country’s context that proved critical in producing the intended outputs and the factors that facilitated and/or hindered the progress in achieving the outputs, both in terms of the external environment and risks, crisis caused by the pandemic, as well as internal, including weaknesses in programme design, management and implementation, human resource skills, and resources.

The evaluation will also assess the cross-cutting aspects of the Project, such as gender equality and human rights and innovativeness in result areas.

To the extent possible, the MTE will also consider the results of the Project’s contribution to address the effects of the COVID-19 pandemic.

## Evaluation criteria and questions

The standard evaluation criteria according to UNDP evaluation policy are Relevance, Impact, Effectiveness, Efficiency and Sustainability. It is acknowledged that the ToR defined evaluation criteria such as **impact, relevance, effectiveness, efficiency, sustainability**, to review the final results and progress of the project, and here are the key overarching questions, and detailed questions are provided in the evaluation matrix in Appendix 3.

## Cross-cutting issues

The evaluation assesses the cross-cutting issues and their relevance to the project, this included an analysis of gender considerations, women empowerment, human rights and south-south cooperation.

**Table 3: cross cutting issues in evaluation**

|  |  |  |
| --- | --- | --- |
| Cross cutting issue | Relevance to the project | How the cross-cutting issue are addressed in evaluation |
| Human rights: Issues of concerns to poor, indigenous and physically challenged, women, men and other disadvantaged and marginalized groups | The poorest parts of the local population have the highest risk of exposure to hazardous chemicals because of their type of work, living conditions, as well as a lack of knowledge about safe handling practices for those chemicals.  In this region Roma people collect secondary materials, so waste management directly influence lives of marginalized groups. | Does project collect disaggregated data on the end beneficiaries: marginalized groups such as Roma people, people with disabilities etc.  Are there any Project activities supporting marginalized groups, people with disadvantages etc. |
| Gender equality: gender equality and the empowerment of women  Is the gender marker assigned to this project representative of reality? | The Project involves gender equality and women's empowerment activities to ensure that the needs and interests of both women and men are considered, and that gender-based differences are recognized during the development of the project document. The UNDP gender marker for this project is 2. | Check Project staff and Project Board women ratio and what is women participation in decision making  Check whether all “people count“ indicators are gender segregated and does the Project report women ratio. Are the gender targets set?  Do women have specific benefits and what are the nature of those benefits.  Is Gender Action plan in implementation as planned?  Are any delays in Gender Action Plan? |

# **Evaluation approach and methodology**

The MTE purpose is to provide evidence-based information that is credible, reliable and useful and comply with UNDG Evaluations Standards. The evaluation was undertaken in line with UNDP principles concerning independence, credibility, utility, impartiality, transparency, disclosure, ethical, participation, competencies and capacities. The consultants signed the Evaluation Consultant Code of Conduct, thereby agreeing to abide by the UNEG Code of Conduct in the UN System (2008). The evaluation was carried out by an independent team of consultants, international and national.

The evaluation process is independent of UNDP, the Government and project partners. The opinions and recommendations in the evaluation will be those of the Evaluators and do not necessarily reflect the position of UNDP, or any of the project stakeholders. Once accepted, the evaluation becomes a recognized and publicly accessible component of the project’s documentation.

The evaluation was carried out between May 2022 and July 2022 (analysis and reporting). Interviews and meetings with implementing partners, experts, beneficiaries and other key stakeholders took place in June 2022.

Evaluation is an evidence-based assessment of a project’s concept and design, its implementation and its outputs, outcomes and impacts as documented in the project document. Evidence will be gathered by reviewing documents, interviewing key, selected stakeholders and from other ad hoc observations.

## Evaluation methods

The methodology used in this evaluation was discussed and agreed with UNDP in the evaluation inception report. This evaluation uses a mix qualitative-quantitative approach (method) to best describe project results based on the on the results framework as outlined in the project document. The evaluation used mixed methods for data collection (document review, surveys and interviews) as well as general best practices of evaluation to gather qualitative and quantitative data that focus on the purpose of the evaluation and answer all of the evaluation questions from the TOR. Data were collected in a gender-segregated way to allow for a specific assessment of impact for man and women. The evaluation included two levels of analysis and data collection:

* A desk review of programme documentation combined with
* Independent data collected by the evaluators through interviews field visits, and
* Surveys.

In collecting the data, due consideration given to ensure data protection aspects and confidentiality of informants. An evaluation matrix[[1]](#footnote-2) is developed as a base for gathering of qualitative inputs for analysis. The evaluation matrix defined the objective for gathering non-biased, valid, reliable, precise, and useful data with integrity to answer the evaluation questions.

### Desk review

The initial stage involved the review of project documentation and associated documents. Project documentation has been provided by both UNDP and UNFPA. The evaluators reviewed all relevant sources of information, such as the project document, project reports – including annual reports, progress reports, project files, national strategic and policy documents, and any other materials that the evaluator considers useful for an evidence-based evaluation assessment.

The key output of the desktop review was to collect data and information as potential evidence that underpin evaluation, and also help the evaluator to familiarize with the project context in details. More than 35 documents have been reviewed during this evaluation, and list of documents reviewed throughout this evaluation is provided in Appendix 6.

### Semi-structured interviews

Engaging stakeholder was critical for the success of the evaluation. The project involves multi-stakeholders and teams in different capacities. Throughout the evaluation process, 26 interviews from key groups of stakeholders were engaged and interviewed using semi-structured interview[[2]](#footnote-3) method such as Group 1: State Level, Group 2: Federal BiH Government, Group 3: RS, Group 4: Brcko District, Group 5: Project teams, Group 6: a couple of beneficiaries and Group 7: Project donor – detailed list of interviewees is provided in Appendix 5.

Semi-structured interview is the most robust method to collect data and information about the delivery and effectiveness of the project. Stakeholders’ interviews were conducted during the evaluation with various stakeholders and teams. Interviewees involved asking open questions about their perspectives of project successes, challenges and also about their particular roles in the project.

The main purpose of the engagement was to collect evidences that support evaluation process and findings and gain sufficient understanding of their perspectives on the program successes and challenges. Interview guide and questions are provided in Appendix 7.

### Surveys

The survey in this evaluation aimed to evaluate the implementation of the project and quantify the impacts on project beneficiaries. The surveys were used for data collection from the program beneficiaries. The online survey component of this evaluation was designed to primarily collect quantitative data from project beneficiaries to answer the KEQs with some open-ended questions to collect qualitative data.

The survey targeted project beneficiaries includes, but not limited to, hospitals and healthcare facilities, Plastic manufacturing companies, Farmers, Pesticide retailers, Incel contaminated site, Waste operators on waste landfills, POPs inventory sites managers, people working on repairs and replacement of condensers and transformers

Total of **31 respondents** reacted to the survey from the above-mentioned list of beneficiaries, of which 50% of the respondent were females and 50% were males. Survey questions are provided in Appendix 8.

## Data analysis

Information was analyzed and consulted with project team, and then an evaluation report draft was developed. All analysis are based on observed facts, evidence and data to inform findings to be specific, concise and supported by quantitative and/or qualitative information that is reliable, valid and generalizable. The broad range of data provides strong opportunities for triangulation. This process is essential to ensure a comprehensive and coherent understanding of the data sets, which have been generated by the evaluation.

The data analysis method involved qualitative analysis, context analysis and thematic analysis of the semi-structured interview responses and analysis of the survey data. Analysis of the context in which a project operates, in particular the political economy context, with a focus on issues of enabling environment, space for change and capacities concerned.

### Data synthesis

The results of the data analysis will be synthesized against the KEQs in evidence tables, with findings generated by triangulating evidence from the desktop review, interviews, and survey.

### Limitations

Implementation of the evaluation faced the following challenges:

* Timing – due to unpredicted circumstances, the evaluation implementation is expected in a short period of time. Risks are predicted and will be managed in time.
* Travel – COVID and international travelling restrictions have an impact on international travel. This will be mitigated by utilizing digital formats and a national consultant, who will facilitate engagements with stakeholder.
* Accessibility to stakeholders – the presence of a national consultant within the country will ensure the ability to access stakeholders.
* Data availability and accessibility especially in relation to impact indicators.
* Inconsistency of data on survey participants (around 10% of email addresses were not accessible after re-checking, several potential survey participants retired or left agencies although kept on the survey list by the Project Team).

# **Findings**

## Relevance

|  |
| --- |
| Findings and conclusions |
| 1. The project is overall in line with the requirements set down by international agreements signed and ratified by BiH and meets the national needs for the fulfilment of the commitments acquired in the framework of the Stockholm Convention on persistent organic pollutants (POPs). The project objectives and activities are fully aligned with and directly relevant to National Implementation Plan (NIP) of Stockholm convention in BiH and also relevant to the beneficiaries needs. |

The proposed project intends to prevent the release of persistent organic pollutants (POPs) in the environment through the implementation of green chemistry initiatives in the industry and agriculture, and destruction of identified POPs waste stockpiles.

The following POPs are supposed to be targeted by the project:

* Dioxins (PCDD/F) released and empty pesticide containers.
* POPs substances and newly listed POPs such as polybrominated diphenyl ethers (C-PBDE and Deca PBDE), short chain chlorinated paraffins (SCCP), used in the manufacturing of plastic products, with special reference to plastic use in articles exposed to sources of heat;
* polychlorinated biphenyls (PCBs) existing in the dielectric fluid of electrical equipment, and obsolete POPs stockpiles/materials;

All these substances, listed under the Stockholm Convention (SC) on POPs, pose a global threat to the environment and human health due to their long persistence in the environment, their long term and cumulative toxic properties, and their capacity to bioaccumulate in living organisms.

**Relevance to the Multilateral Environmental Agreements (MEAs):** The project is in line with the requirements set down by international agreements signed and ratified by BiH. The three most relevant for the chemicals sectors are Rotterdam, Basel and Stockholm conventions (RBS).

BiH ratified the Stockholm Convention on 30 May 2010 and committed to meeting the requirements of the Convention, with the main objective to take measures for the elimination or restriction or prevention of the production, import, export and use of all manufactured POPs and the continuous reduction to minimize the occurrence of these pollutants in the environment, and the elimination of emissions of unintentionally produced POPs.

Since 2007, BiH is a member of the Rotterdam Convention on the prior notification procedure with approvals for trade of specific dangerous chemicals and pesticides in international trade. The Rotterdam Convention encompasses pesticides and industrial chemicals that have been banned or severely restricted by parties for health and environmental reasons and which have been notified by Parties for inclusion in the prior informed consent procedure. The Convention regulates 40 chemicals, including 29 pesticides among which 10 POPs pesticides (aldrin, chlordane, DDT, dieldrin, endosulfan, HCH, heptachlor, hexachlorobenzene, lindane (gamma HCH), toxaphene). Based on the provisions of the Convention, BiH has issued a decision on not accepting the import of all 10 POPs pesticides.

BiH became a party to the Basel Convention on the control of transboundary movements of hazardous wastes and their disposal, designed to reduce the movements of hazardous waste between nations. Waste containing POPs substances is covered by this Convention due to its hazardous characteristics. In accordance with the Basel Convention, it is necessary to ensure that the transboundary movement of hazardous waste and other waste is reduced to a minimum, in line with the environmentally sound waste disposal, and which is carried out in a way that human health and environment are protected from harmful effects of such a transport.

BiH is a party to the Convention on Long-Range Transboundary Air Pollution (CLRTAP) and respective Protocol on Long Term Financing of the Co-operative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe (EMEP).

**Other relevant conventions/protocols BiH is a signatory to**:

* Conventions and Protocols relevant for management of POPs that BiH is a signatory to and a Party of are as follows:
* Convention for the Protection of the Ozone Layer Vienna (1993);
* Protocol to the Vienna Convention on Substances that Deplete the Ozone Layer Montreal (1993); and

In addition, there are two more international treaties related to POPs that BiH is not a Party to:

* Aarhus Protocol to CLRTAP on Persistent Organic Pollutants (POPs)
* Minamata Convention on Mercury

**Contribution to the EU accession agenda:** The European Union Environmental Acquis consists of eight group of legislative instruments, water, waste, air quality and climate change, industrial pollution, chemicals, nature protection, and environmental noise. BiH signed the Stabilisation and Association Agreement (SAA) in 2008, which was ratified and entered into force in 2015. According to Article 108 of the SAA the Parties shall develop and strengthen their cooperation in the environment sector with the vital task of halting further degradation and start improving the environmental situation with the aim of sustainable development.

Regarding transposition of the chemical acquis, BiH plays a three-fold role:

* Concluding of international treaties and fulfilling international obligations set therein, which is exclusively the competency and responsibility of BiH;
* Designation of adequate coordination and harmonization framework for development, adoption, implementation and enforcement of an efficient legal regime for chemicals; and
* Adoption of certain concrete strategic, policy, planning and legal instruments aimed at transposition of certain substantive provisions for the chemicals sector.

The State of BiH is an EU partner in the approximation process. To this end, BiH (through its authorities) is responsible for providing, in the accordance with the Constitution of BiH, coordination and harmonization of activities aimed at transposition, implementation and enforcement of the EU acquis. Regarding the chemical acquis this would comprise registration, evaluation, authorization and restriction on chemicals and demand the BiH authorities to undertake efficient coordination in creating a unique central register of data regarding chemicals in BiH. Furthermore, BiH authorities are the only eligible to be the partner to European Chemical Agency in communication regarding chemicals in BiH.

BiH adopted the Environmental Approximation Strategy (EAS), environmental approximation strategies of both entities and the Environmental Approximation Strategy of Brčko District with the Chemicals sector incorporated within. Strategies emphasize the need for authorities in charge of the chemicals sector in BiH to carry out harmonization activities aimed at transposition, implementation and enforcement of the EU acquis and establish a partnership and communication with the European Chemical Agency.

Following the EU accession agenda, the project refers to the EAS at all levels and use it as one of the baselines for identifying shortcomings and necessary improvements. For example, under the Component 1, the project established working groups consisted of representatives of 32 institutions relevant for the implementation of SC, with the task to conduct a gap analysis of the relevant regulation which may be affected by the POP regulation, to coordinate the filling of data gaps, and to draft and submit for approval the relevant regulation to decision-making authorities. The gap analysis benchmarked the BiH POPs-related legislations to the EU regulations.

Also, trainings on the integration of the SC with the EU and BiH legislation on chemical and waste for environmental decision makers carried out based on the NIP outcomes alongside the EU rules and regulations.

Component 2 is aimed at the reduction of U-POPs release derived from incineration of mixed health care waste with a large fraction of chlorinated plastic and expired pharmaceutical products in sub-standard facilities, through the implementation of Environmentally Sound Management for some selected waste streams. This way, the project team will protect human and environmental health by reducing releases while building up on the experience gathered by UNDP’s similar projects and initiatives in other countries. With the implementation of green chemistry principles in plastic manufacturing, alongside the proper management and disposal of PCBs and POPs from abandoned industrial premises, as envisaged by the project components 3 and 4, the project will endeavour to inspect abandoned industrial sites in BiH, assess for the presence of POPs, and list them in a data base, while in the same time preventing the use of and release of the new POPs.

In addition, Components 1 and 3 of the project include development of laws and bylaws following the provision set out in the **REACH Directive (EC/1907/2006)** that aims to improve the protection of human health and the environment through the better and earlier identification of the intrinsic properties of chemical substances.

**Relevance to the Stockholm National Implementation Plan (NIP):** The main objective of the National Implementation Plan for the Stockholm Convention in BiH (NIP) is to protect the environment and human health from the adverse effects of POPs chemicals. In order to achieve this objective and to meet the obligations arising from the Stockholm Convention, relevant stakeholders together with members of the PNSC have determined priorities for management of POPs in BiH.

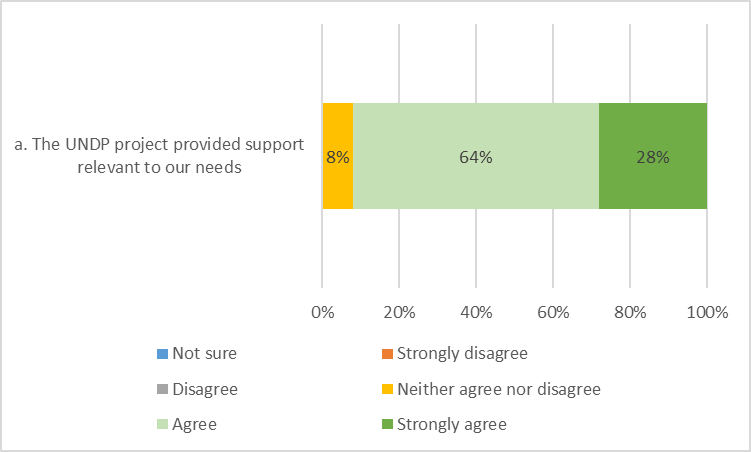
NIP contains 19 strategies and action plans, which specify the measures and activities that need to be implemented in order to ensure the implementation of the Stockholm Convention in BiH, the institutions responsible for their realization, as well as the time frame and the estimated necessary funds. The activities envisaged by the NIP are aimed at improving management of chemicals and wastes through comprehensive addressing of problems related to POPs.

The project aligns with and contributes largely to the NIP’s 19 strategies by developing acts, by laws, regulations and procedures to regulate in detail the entire lifecycle of all chemicals mentioned in the Stockholm Convention, investing in capacity building, update the inventory, supporting systematic monitoring and reporting and pave the road for the safe disposal of the POPs and POPs contaminated material and equipment.

**Relevance to the beneficiaries[[3]](#footnote-4) needs**

The project beneficiaries reported that support offered by the project to them has been relevant to their needs. 92% of the survey respondents (n=31) agreed that the UNDP POPs project provided support relevant to their needs.

Figure 1: Beneficiaries survey responses to a question how relevant UNDP project to your needs (n=31).



**Alignment with the CPD:** The UNDP Country Programme Dcument for BiH (2021-2025) makes specific reference to the POPs under Outcome 1. By 2025, people benefit from resilient, inclusive and sustainable growth ensured by the convergence of economic development, and management of environment and cultural resources, specifically Output 1.1. Authorities and communities have in place capacities and tools to ensure sustainable management and protection of natural resources, and particularly Indicator 1.1b. Number of persistent organic pollutants-contaminated sites with environmental management plans drafted and approved. Baseline (2019): 0. Target (2025): 3. The POPs project will be main source to deliver on this CDP target.

**Alignment with the SDG framework:** BiH has endorsed and committed to the implementation of the Agenda 2030 and localizing the 17 SDGs in its path to EU integration.

The implementation of Project activities is in line with this strategic orientation towards achieving the 2030 Agenda, in particular with the following SDGs and targets:

Table 1 Project contributions to SDGs

|  |  |  |
| --- | --- | --- |
| Goal | Sustainable Development Goal | Direct contribution of the Project |
| 3 | Ensure healthy lives and promote well-being for all at all ages | |
|  | 3.9: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination | Hazardous chemicals containing POPs will be gradually phased out through environmentally sound management of health-care waste and plastic waste contaminated by pesticides  Abandoned industrial sites will be remediated  Green chemistry production principles will be introduced |
| 12 | Ensure sustainable consumption and production patterns | |
|  | 12.4. By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment | Some of PCDD/F TEq release avoided through the:  - a series of training modules on good practices in health care waste management chain, training of laboratory staff  - Purchase of containers for safe disposal of empty pesticides containers for at least 10 pesticide retailers for dissemination to the farmers |
|  | 12.8. By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature | - promotion of the safe disposal of empty pesticides containers via brochures and leaflets  - distribution of a manual for custom officers on identification, prevention of illegal import of POPs and safe handling  - On site demonstration of environmentally sound management of plastic waste contaminated by pesticides  - awareness raising events, workshops, broadcasting |
| 17 | Strengthen the means of implementation and revitalize the global partnership for sustainable development | |
|  | 17.7. Promote the development, transfer, dissemination and diffusion of environmentally sound technologies to developing countries on favourable terms, including on concessional and preferential terms, as mutually agreed | Demonstrate environmentally sound management using appropriate BAT/BEP technologies and calculate resulting emission reduction  -installation and demonstration of waste disinfection technologies not releasing U-POPs  - a software/database on 28 POPs, with appropriate tools and user manuals, and mapped data entry points. Software/ database will contain at least 2 examples of the best practices from EU (and the region)  - Using the best EU practices organize a training aimed at ensuring capacity building in the plastic manufacturing industry for selected companies |
|  | 17.9. Enhance international support for implementing effective and targeted capacity-building in developing countries to support national plans to implement all the sustainable development goals, including through North-South, South-South and triangular cooperation | Transfer of technologies (green chemistry principles), BAT development and application in plastic manufacturing, trainings through transfer of knowledge from developed EU countries. |

## Coherence of the programme design

|  |
| --- |
| Findings and conclusions |
| 1. The project design has strengths and weaknesses. The strengths are that the project document included robust information about the problem to be addressed, objective, outputs and to a certain degree the long-term impacts. This information has been pulled together in a Theory of Change (ToC) section and presented links between project activities and expected impacts, with relatively SMART output-based indicators. Also, the project design followed a participatory process with involvement of key national stakeholders to ensure that it aligns to national priorities. 2. The project design weaknesses are mainly attributed to the absence of appropriate funding model for the ultimate disposal of the POPs and POPs-contaminated equipment, the project management has adapted to this by achieving $300K savings that are now allocated to the disposal process to meet the 50 ton target.. Also, the project design could have leveraged the theory of change and defined more outcomes and impacts indicators to enable impact measurements, especially to optimise behavioural changes (examples provided below). The Social and Environmental Standards screening didn’t seem to identify and address the social and environmental risks appropriately, specifically those health, safety and well-being associated with handling POPs under “Standard 3: Community Health, Safety and Working Conditions”. 3. The project design has gone through a journey of updates, and two additional components in two separate occasions were added to the project document so far to accommodate emerging needs of 1) Development of the Inventory of cooling equipment using ozone depleting substance (ODS), and 2) Support authorities and communities to combat the COVID pandemic. |

**Overall design:** The formulation of this POPs project initially intended as a proposal to be submitted to the Global Environment Fund (GEF) in 2018, at the time, GEF had no resources left in its funding cycle, and therefore, the UNDP approached a bilateral donor for funding SIDA in this case, and the funding request was approved in 2019.

UNDP developed a detailed Project Document (ProDoc) that served as a main project reference document, and it was approved in May 2019. The design of the ProDoc follows a standard strategy for this sort of intervention with the inclusion of an expected objective, expected outcome and outputs and key areas of activity as well as key deliverables.

**Lack for effective co-financing model:** Under the GEF funding model, this kind of project would heavily rely on the co-financing to ensure barrier removal through technical assistance and particularly physical disposal of the POPs. The co-finance model represents a guarantor from government, polluters and UNDP to pledge enough resources to support project activities and specifically ultimate disposal of the waste. When this project proposal changed from the GEF world to seek bilateral funding through SIDA, the co-financing model was no longer a funding requirement and therefore was removed with no alternative funding model for the disposal activities defined, and this now resulted in unclear funding model for the POPs disposal beyond project target.

**Review the project design**: the project design has gone through a journey of updates, and two additional components in two separate occasions were added to the project document so far to accommodate emerging needs:

1. The inclusion of ozone depleting substance (ODS) component: In December 2019 Amendment to cost-sharing agreement (CSA) was signed to include additional funds approved by Swedish Embassy in amount SEK 2,554,592.04 (USD 262,710.00). Funds will be allocated to additional Component for Development of the Inventory of cooling equipment using ozone depleting substances. The aim of the Amendment was to undertake an inventory of appliances and equipment that contain ozone depleting substance (ODS). The amendment was also approved by the project board in July 2019.
2. The inclusion of COVID response component: This additional component was mainly to support authorities to provide inclusive and multi-sectoral crisis management and response to COVID-19, particularly regarding medical waste management. This included support safe disposal of medical waste at households from those COVID-infected, and increase general public awareness on the responsible behaviour in terms of waste disposal during the public health crisis. Through the additional component, the project is supposed to assess medical waste disposal practices at healthcare centres and procure separate waste disposal equipment and medical waste treatment facilities.

**SMART-ness of the indicators**: The evaluators found the indicators and targets to be in line with the SMART criteria, i.e. specific (S), measurable (M), attainable (A), realistic (R) and time-bound (T). In some cases, the selection of indicators, and some instances the wording of those indicators, was less satisfactory and the project management have struggled, in some cases, with monitoring and reporting the progress and performance. For example, under output 3.1, the indicators of quantity (in tons) of polybrominated diphenyl ethers (C-PBDE) and SCCP replaced by introduction of non-POP alternative to flame retardants in plastic manufacturing, these indicators were designed on the assumption that there would be substantive quantities of PBDE and SCCP in plastic manufacturing, however no companies were found to use these chemicals, and therefore this particular indicator is no longer valid.

The team of consultants proposed an alternative indicator of

“***The principles of green chemistry have been applied, resulting with at least 10% efficiency in each selected company, with respect to its annual reduction of its material flows (e.g. consumption of chemicals, raw materials, energy and/or waste streams) compared to the baseline state of the company***”

The MTE found this a reasonable change given direct relevance to green chemistry principles, the evaluators suggest slight changes to the wording of this indicator to be as this:

|  |  |
| --- | --- |
| Indicator | Baseline and Target |
| Annual reduction of the targeted companies’ material flows (e.g. consumption of chemicals, raw materials, energy and/or waste streams | Baseline: To be determined for each company through the audit  Target: by 2025, at least 10% efficiency (i.e less than baseline) |

Measuring the 10% efficiency refers to the annual reduction of material flows (consumption of raw materials, chemicals, energy and / or waste streams) compared to the baseline state. Determining the initial state of consumption of those material flows will be done through environmental audits for each company. Project team will evaluate each proposed measure in the environmental audit reports targeting on reduction of material flows related to green chemistry principles. It is a standard methodology that is also applied in evaluating opportunities for improvement in relation to the 12 principles of green chemistry.

**Theory of Change (ToC)** depicts how programme activities respond to certain development problem and lead to short (output), intermediate (outcome) and long term (impact) changes. The project document includes robust information about the problem to be addressed, objective, outputs and to a less degree the long-term impacts. This information has been pulled together in a ToC section and presented links between project activities and expected impacts.

The logic behind this POPs project is that the risk for people’s health and the environment will be reduced only if the POPs related legislation is mainstreamed into the process of inter-institutional and the BIH environmental legislation is harmonized with EU standards, if the PCDD/F release is avoided through the establishment of capacity for the proper segregation and management of waste generating U-POPs and if the green chemistry principles are adopted in the emerging plastic manufacturing sector, contributing to the avoidance of the use of at least 10 tons of PBDE, deca PBDE and short chain chlorinated paraffins.

The desired higher-level change will be attained only if the coordination structure for the implementation of the convention (horizontal and vertical) is established to ensure that POPs related legislation is mainstreamed in to the process of inter-institutional and EU harmonization of the BIH’s environmental legislation and if the Stockholm Convention is mainstreamed in the environmental legislation of the 2 entities and Brčko District. The process will be facilitated by adequate monitoring with a software/ database on POPs, that will be developed and made available to the stakeholders.

The PCDD/F release will be avoided through the establishment of capacity for the proper segregation and management of waste generating U-POPs, including capacity building, better segregation of waste streams instalment and demonstration of disposal technologies and the implementation of environmentally sound management of plastic waste contaminated by pesticides.

Figure 2: Schematic presentation of the theory of change

|  |
| --- |
| A picture containing graphical user interface  Description automatically generated |

**Assumptions:** This project rests on the assumption that there is a strong government ownership to meet commitments to the Stockholm Convention and that the coordination structure for the implementation of the Convention (horizontal and vertical) is established to ensure that POPs related legislation is mainstreamed in to the process of inter-institutional and EU harmonization of the BIH’s environmental legislation and if the Stockholm Convention is mainstreamed in the environmental legislation of the 2 entities and Brčko District.

**Behavioral change**: The ToC as defined the project document draws a direct link between the outputs and impacts without defining the intermediate outcomes such as change in behavioural, practices, contribution, decision making and policies. This misguided the development of outcome-based indicators and resulted in only output level indicators. Example of intermediate outcomes for this project could be like these:

* All levels of Government adopt POPs-related policies and legislations
* Farmers are aware of the adverse impacts of pesticides and dispose their containers safely
* Manufacturers apply the green chemistry principles

The benefits of defining the intermediate outcomes in ToC would be, among many others, 1) building logical consequence of changes leading to the ultimate impacts (i.e better health in case of this project), and 2) guiding outcome-based indicators that can be used to measure outcomes in monitoring and evaluation meaningfully.

The survey of this evaluation is meant to collect information from the beneficiaries to understand the impacts including some at the intermediate level. See impacts section.

**Risk management:** Initial risk assessments to acknowledge potential risks were developed in the design document. To mitigate potential risks, the Project Document defines actions to implement risk-management procedures. A preliminary risk log is also included in the Project Document where 10 risks have been identified and ranked according to their potential impact, severity, and probability of occurring (including a COVID-related risk added as part of scope review), the number of risks have increased to 13 with the regular minoring and update of the risks log.

**Social and Environmental Standards (Safeguards):** The project design included screening of social and environmental risks, the screening process mainly aimed to strengthen quality of programming by ensuring a principled approach, maximize social and environmental opportunities and benefits, and avoid adverse impacts to people and the environment.

However, the Social and Environmental Standards screening didn’t seem to identify and address the social and environmental risks appropriately, specifically those health, safety and well-being associated with handling POPs under “Standard 3: Community Health, Safety and Working Conditions” of the screening process, specifically question 3.2 “Would the Project pose potential risks to community health and safety due to the transport, storage, and use and/or disposal of hazardous or dangerous materials (e.g. explosives, fuel and other chemicals during construction and operation)?”.

Despite the fact the project aims at reducing the risk for people’s health and the environment in the country, but also the project involves people exposure to the POPs through the sampling, testing and disposal processes. These should have been identified as risks to be managed through the implementation, and it is important to ensure close attention to the work of sub-contractors and careful selection of partners with due diligence.

**Human rights:** The project directly addresses the Article 25 of the UN Human Right Declaration “Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family….”, a healthy environment should be considered as a pre-condition for the full enjoyment of human rights. In addition, BiH is a signatory and therefore, committed to multilateral environmental agreements that play a critical role in the overall framework of environmental laws and conventions and form an international legal basis for global efforts to address environmental issues and are advocates of healthy environment and improved human health. By reducing impacts caused by the POPs release in the environment, improved healthcare waste management, and implementation of green chemistry approach in industry and agriculture, as well as disposal of identified PCBs/POPs waste stockpiles, the project will directly contribute to achieving the exercise of this fundamental human right.

**Gender equality:** The project design integrated gender aspects of the healthcare waste and POPs management practices in industrial and hazardous waste sectors, by ensuring the participation and representation and buy-in of vulnerable groups. Special attention devoted to ensuring equal access of women and man to relevant and available information/data and equal participation of women and men at the trainings, conferences and meetings planned by the project.

The project makes its best efforts to raise awareness on the links between sub-standard healthcare and general POPS waste management and public health (including occupational standards), with a special focus on the health implications of exposure to POPs for particularly vulnerable population, e.g. female workers, pregnant women and children. The project is implemented in a manner that ensures equal participation by women and men in all activities and project structures. Some of the project indicators are gender-disaggregated and included in the project’s monitoring and evaluation plans.

The UNDP gender marker for this project is 2.

The project developed a Gender Mainstreaming Document with Gender Action Plan aiming to help identify areas where gender equity be strengthened in the project design and delivery and ensure equal participation of women and man in decision making processes, as per defined in Gender Equality Law in BiH.

Considering that women, men and children are different when it comes to physiological sensitivity to the effects of exposure to hazardous chemicals, special attention has to be given to the connection between the issue of gender and the effect of chemicals.

Women are particularly sensitive to hazardous chemicals:

* Because they are susceptible to the special effects of hazardous chemicals because of the structure of their reproductive system;
* Because of the lipophilic characteristic of most hazardous chemicals, as their effect is bigger on women, considering that women most often have a higher proportion of fat tissue, and there is a higher possibility of storage of dangerous chemicals in the body;
* In certain periods of their life, such as pregnancy, breastfeeding, menopause and soon.

Raising awareness about the link between exposure to hazardous chemicals, the effects on human health and gender differences when it comes to risk and effects is of vital importance.

**Stakeholder participation:** The **Project Board** is responsible for making by consensus, management decisions when guidance is required by the Project Manager, including recommendation for UNDP/Implementing Partner approval of project plans and revisions. In order to ensure UNDP’s ultimate accountability, Project Board decisions are made in accordance with standards that shall ensure management for development results, best value for money, fairness, integrity, transparency and effective international competition. In case a consensus cannot be reached within the Board, the final decision shall rest with the UNDP Programme Manager. The Project Board is comprised of the following institutions:

The Project Board is comprised of the following individuals:

* Ministry of Foreign Trade and Economic Relations of BiH (member);
* Ministry of Spatial Planning, Construction and Ecology of the government of RS (member);
* Ministry of Tourism and Environment of the FBiH (member);
* SWEDEN, Head of development cooperation (member); and
* UNDP BiH (member/Chair of the Project Board).

## Effectiveness

|  |
| --- |
| Findings and conclusions |
| 1. There is satisfactory progress towards MTE targets with 95% of MTE measurable targets are either on track or fully achieved (37 out of 39), while 5% of the targets (2 out of 39) are assessed to be off track. There are number of significant milestones achieved so far including the drafting the new legislations that opens the door for other important activities, the inventory of POPs, the pesticides containers pilot, the remediation plan for Incel that would enable reducing human health risk, green chemistry principles integration and preparation for the audit, COVID immediate response, ODS legislation and inventory as well as multiple capacity building activities. 2. The key areas where the project is lagging are finalising the legislations (i.e endorsement), preparations for physical disposal of contaminated equipment, and incentive mechanism to ensure sustainability and replicability of green chemistry initiative in the manufacturing industry. Endorsing the new legislation remains a priority in the short-term and a challenge in the current political environment, and enforcement capacities are not yet assessed nor addressed. 3. The effectiveness of the project delivery has been challenged by COVID 19, availability of technically sound expertise, complexity of the political environment in BiH, media pressure to prioritise some public facing activities, and difficulties in balancing the engagement among stakeholders in a way that respects all stakeholders mandates, clarity on roles and responsibilities. |

Effectiveness is the extent to which an intervention achieved, or is expected to achieve, its objectives and results. It is the extent to which the development intervention’s objectives were achieved or are expected to be achieved considering their relative importance. It is also an aggregate gage of the merit or worth of an activity, i.e., the extent to which an intervention has attained, or is expected to attain, its major relevant objectives in a sustainable fashion and with positive institutional development impact.

### Component 1: Capacity building and mainstreaming of POPs related legislation into the process of harmonization of the BiH environmental legislation

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Outcome/output | Indicators | Baseline | Target | Achieved as of June 2022 | Status at MTE |
| Outcome 1: POPs related legislation mainstreamed into the process of inter-institutional and EU harmonization of the BIH environmental legislation and POPs inventory/registry developed | Framework for the implementation of the Stockholm Convention in BiH developed and aligned with EU accession requirements | No (2019) | Yes (2022) | The project developed a roadmap to guide the delivery of the working groups engaged within the project for implementation of the Stockholm Convention | On track |
| Output 1.1 Coordination structure for the implementation of the Convention | Established functional working groups for implementation of Stockholm Convention in accordance with National Implementation Plan (NIP)  Number of women and men (with regard to their position) represented into working groups relevant to the Project | No (2019) | Yes (First year of the Project – 2019/2020) | Four working groups established (BIH state, Federation BIH, RS, Brcko District level) to contribute to GAP analysis and prioritize legislation at each governance level  40% of women enrolled in functional working groups -Out of 81 there are 32 women | Achieved (ongoing) |
| Output 1.2: Stockholm Convention mainstreamed in the environmental legislation of the 2 entities and Brčko District. | At least four (4) POPs related decrees drafted and approved by the working groups | Baseline: No (2019) | Target: 0 (2020/2021)  Target: 4 (2021/2022) | 6 different acts/decree on implementation of the Stockholm convention have been developed.  These are not approved though | On track  Not fully approved yet |
| Output 1.3: Training on the integration of the Stockholm Convention with the EU | Training program developed and provided for environmental decision makers | No (2019) | Yes (2021/2022)  Yes (2023) | The project developed a training program. 6 trainings identified, of which 4 delivered for 188 trainees (69% females). | On track |
|  | BiH wide consultations organized | No (2019) | Yes (2022) | There has been extensive consultation process through the working groups | On track |
| Output 1.4: A database on POPs | Established database on POPs | No (2019) | Yes (2021) | The inventory has been initiated but not finalised yet. Database is limited to excel format | On track |
| Output 1.5: POPs containing waste or equipment disposed | Quantity (in tons) of POPs containing waste or equipment disposed of | 0 (2019) | 50 tons (2024) | Despite preparatory work, this is rated off track due to the financial risk | On track |

**Working groups (output 1.1)**: The Project developed the four separate project working groups per the governance level including BIH state, Federation BIH, RS, Brcko District level. In total there are 51 institutions with 81 individual members participating in these groups.

The project organized first four meetings of each working group (state BIH institutions, Federation BIH institutions, RS institutions and for Brcko District institutions) took place in March 2021, at these meetings, the participants were introduced by project’s findings concerning legislative priorities but were also asked to provide their own feedback and suggest priority legislation.

Working groups have been created for each governance level (BH, Federation BIH, RS and Brcko District), and composed of different sectors :

* Environmental protection
* Health protection and management of chemicals
* retailers
* Transport
* Agriculture
* Industry and occupational safety, and
* Border control and inspection.

Members of the working groups are made up of relevant institutions, i.e. persons appointed by these institutions, at the level of BiH, entities, BD and cantons in the Federation of BiH. Table 1 presents the relevant institutions and their responsibility for managing POPs by life cycle stages.

**POPs reporting mechanism (output 1.1)**: The inventory will result with detailed inventories for each POPs type as well as with revised list of contaminated sites in BIH, and in this way could be regarded as long needed and anticipated update of NIP document. Inventory/database shall be regularly updated, enabling rapid and timely access to information when needed, and this requires the establishment of a new reporting mechanism for ongoing data reporting.

The **data base integrity is presently challenged** by being limited to excel, the data base that holds inventory data should change from excel into more sophisticated and secure online data base holder that can also be used for reliable reporting. The project established the GIS map (it is developed, but still in testing phase, very soon will be available to the stakeholders) and Excel sheet with statistical data on total quantities of production, import and export of each of the chemicals listed in the Stockholm Convention Annexes that will provide a basis for the fulfillment of reporting obligations. The project will ensure that both the inventory and the related GIS map are part of the Waste Management Information System that will be available to the stakeholders. The project has already discussed and agreed with Project Board that both ODS and POPs inventory will be modules in the Environmental Information System a sister UNDP project is delivering for the institutions

**Roadmap (outcome 1 indicator)**: The project developed a roadmap to guide the delivery of the working groups engaged within the project for implementation of the Stockholm Convention to establish for effective co-operation between all relevant institutions at the BiH level, entities and BD to implement obligations under the Convention.

Figure 3 The coordinating structure (horizontal and vertical) for the implementation of the Stockholm Convention in BiH is presented



**Gap Analysis (output 1.2):** The project conducted detailed gap analysis of the legal and institutional readiness of the Stockholm convention implementation. This GAP analysis covered the current situation - legislation and institutions for the management of persistent organic pollutants (POPs) in BiH at the level of the Federation of BiH, RS and the Brčko District. The management of POPs in the EU is not regulated as a complete system, but regulated through a set of regulations dealing with the management of POPs, and chemicals, sources of POPs and waste containing POPs. Therefore, this document discusses all existing legislation related to environmental protection, as well as legislation dealing with POPs chemicals.

**Development of legislation output 1.2)**: Following the completion of a comprehensive consultation and selection process, the following legal acts have been selected and drafted:

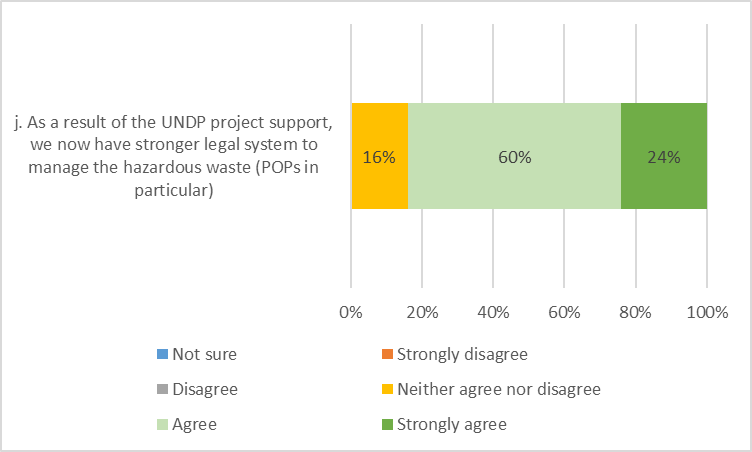
1. at the BIH level: 1) the Decree on Implementation of the Stockholm Convention and 2) Customs’ Legal act on action taking of goods containing POPS;
2. at the Federation BIH and Brcko District level: 1) the Decree on POPs (new regulation), 2) the chapter on POPs by virtue of amending the Law on Environment Protection
3. at the RS level: 1) Rules on managing waste containing POPs, 2) books of rules on managing medical waste, 3) the Rulebook on managing waste arising from electronic and electrical devices.

The approval process of these legislations has been facing significant challenge of reaching consensus among project board and representatives of different Government levels. Whilst the project is continuing its technical support to the working groups, however the endorsement of the new legislations remains a priority in the short-term.

Also, it worth noting that the project has been extensively focused on the legislation development with limited attention given to enforcement capacities to implement the new legislation. This MTE suggest more attention is to be given to the enforcement side of the legislation by assessing the current enforcement capacities in relation to the new acts.

84% of project stakeholders and beneficiaries who responded to the survey (n=31) agreed that as a result of the UNDP project support, we now have stronger legal system to manage the hazardous waste (POPs in particular).

Figure 4: Project stakeholders and beneficiaries’ perception on the legal system (n=31)



**Training (output 1.3)**: The project developed a training program that serves as a basis for developing and delivering respective training sessions to the institutions to build their capacity in, and familiarize them with, the most relevant topics to POPs. The training program identified key areas of training such as:

1. Legal instruments for the implementation of the Stockholm Convention and POPs Regulation EU No 2019/1021 and prioritization for national priorities and objectives
2. Environmental fate and level of POPs
3. Health and occupational risk assessment of POPs
4. POPs pesticides and PCB problems
5. BAT/BEP Guidelines concerning to POPs, remediation of contaminated sites
6. New POPs including issues and inventories

So far two trainings have been delivered.

1. **International legal instruments (June 2021 – 50 people attended):** this was of particular interest to lawyers and decision makers in the institutions due to upcoming legislative changes expected to streamlining local legislation with international and EU treaties.
2. **Environmental Fate and Level of POPs (June 2021 – 41 people attended).** The training addresses important topics such as general features of POPs, their sources and fate in the environment including monitoring of POPs in air, water and land.

**Inventory/database development (output 1.4)**: As a significant amount of information on the contaminated site is lost due to the political environment in the country. The project is gathering all the existing data concerning contaminated sites, including previous surveys and the aerial maps, and to carry out interviews and questionnaire surveys, involving the local authorities from the two entities and Brčko District, to collect all the relevant historical information on the situation of the industry in the country.

The project is also undertaking inventory to cover the identified data gaps, the inventory will cover

* Stocks of POP Pesticides
* Stocks of polychlorinated biphenyls (PCB) contaminated materials and equipment
* Polybrominated diphenyl ethers (PBDEs), PerFluoroOctane Sulfonic acid (PFOS), hexabromobiphenyl (HBB), Hexabromocyclododecane (HBCD) and U-POPs

This should include conducting preliminary risk assessment and prioritization of contaminated sites potentially contaminated with POPs.

Approximately 1400 stakeholders have been identified to participate in the data collection, of whom 275 public companies and remaining private companies associated in certain way with POPs. UNDP hosted two live initial workshops on developing POPs inventory in June 2021 in Sarajevo and Banja Luka (46 participants in both workshops), the purpose of the workshop was to present the inventory approach and requirements and create a comprehensive list of internal tasks and actions.

PCBs contamination was given a priority in the inventory based on the MoFTER request.

**Preliminary risk assessment of contaminated sites (output 1.5)**: The project conducted preliminary risk assessment and prioritization of contaminated sites potentially contaminated with POPs, and identified 17 sites for the inventory and additional 3 sites as a backup. The project developed new methodology proposed by Tauw company for the preliminary POPs inventory in 17 locations, and further detailed analysis for 3 locations, and the method was agreed by stakeholders and board.

|  |
| --- |
| Summary of the inventory findings |
| In total the inventory identified 334.5 tons of POPs in BiH. Of this:   * 301 tons is PCB or PCB contaminated equipment that is still in use * 30 tons is PCB or PCB contaminated equipment that is no longer in use * 13.5 tons is PFOS or PFOA containing firefighting foam   Of the PCB equipment that is still in use, some of the facilities have indicated that they are willing to cooperate to take out of service their equipment and ship the materials as part of the current program.  In addition to the above-mentioned POPs, the project identified over 130 tons of other (hazardous) wastes at abandoned industrial facilities. These wastes present a serious threat to the environment. |

**Disposal of POPs containing waste or equipment (output 1.5)**: At least 50 tons of PCBs/PCB-contaminated equipment or other POPs contaminated materials and waste expected to be disposed of through packaging and shipping to disposal facilities, compliant with the Stockholm Convention and Basel Convention’s requirements. This activity is not yet due at the time of the MTE, however, the MTE notes this activity was not initially funded in the project design, and the project management achieved $300K savings from other activities to be available for the final disposal. Now that inventory is over, the preparation for physical disposal should start soonest possible to be able to implement a lengthy dispoal process by 2024.

### Component 2: Prevention and monitoring of U-POPs generation and of release of POPs through minimization, segregation and environmentally sound management of selected hazardous waste

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Outcome/output | Indicators | Baseline | Target | Achieved as of June 2022 | Status at MTE |
| Outcome 2.1: Around 2g TEq of PCDD/F release avoided through the establishment of capacity for the proper segregation and management of waste generating U-POPs | Proper segregation and management of waste established | No (2019) | N/A (2022/2023) | This activity has been cancelled due to absence of incinerators at medical facilities | NA |
| Output 2.1.1: Dioxins` (PCDD/F) release avoided through the implementation of environmentally sound management of plastic waste contaminated by pesticides | Quantity (in grams of toxic equivalents g TEq) of PCDD/F avoided | 0 (2019) | 2 g TEq (2022)  2 g TEq (2023) | 3.5 ton collected – approximately 0.23 g TEq avoided by time of MTE | Off track |
|  | Number of people from relevant institutions and pesticide retailers trained | 0 (2019) | 60 (2021)  40 (2022)  100 (2023) | 101 participants trained through 5 training courses for trainers on subject WCMS | Achieved |
| Outcome 2.2: Capacity for monitoring of POPs and U-POPs in the environment and at the originating sources established | | | | | |
| Output 2.2.1: Laboratory trained on sampling and analyses of POPs and U-POPs | Number of laboratories trained on sampling and analyses of POPs and U-POPs | 0 (2019) | 1 (2023) | Not started yet. Due to start end of 2022 | The target is due after the MTE |
|  | Number of sampling and analyses of POPs and U-POPs carried out | 0 (2019) | 20 (2023)  30 (2024)  - 30 samples of soil or chemical stock piles  - 10 samples of environmental air  - 10 samples at the stack of industrial or waste disposal facilities | Not started yet. Due to start end of 2022 | The target is due after the MTE |
| Outcome 2.3: Illegal import or marketing of chemicals and goods containing or contaminated by POPs prevented | Number of employees of Custom Service trained to track illegal import of chemicals and goods contaminated by POPs | 0 (2019) | 20 (2021) | 31 | Achieved |

**Medical waste:** An internal UNDP research showed that there are no incinerators operated by medical facilities in BiH, as a result the project board decided in 2020 to set the allocated budget for this component ($350,000) a side until after the results of the inventory are available.

**Pesticide Container Management System (CMS) (output 2.1)**: The project delivered a feasibility study on the implementation of the Container Management System (CMS) for the management of container (packaging) pesticide waste in BiH, as a result of this study, the strategy for managing this type of waste will be developed. The Feasibility study aimed at identification of 30 tons of abandoned empty pesticide containers, their location assessment and containers final disposal/handling.

The introduction and development of a CMS primarily will help to minimize the risk of container reuse, particularly for food and water, minimize (or eliminate) the risk of container reuse by counterfeiter, demonstrate the industry's commitment to preserve human health and care for the environment and help to meet the commitments to implement the International Code of Conduct for Pesticides Management which calls on the industry, in cooperation with other stakeholders, to establish container management systems.

The benefits of the CMS would be reducing health and safety risks on the farm as a result of inappropriate reuse of empty containers, reduce the CO2-footprint, and establish successful enterprises in waste management with the potential for addressing other rural waste issues.

The project developed training of trainers’ modules for pesticide retailers and representatives of relevant government institutions, and conducted 5 training courses for trainers on subject WCMS delivered to 101 participants; 8 selected trainers to educate farmers in the field and to lobby them to participate in the preparation, collection and disposal of packaging waste

The proposed CMS consists of three main processes: 1) Collection – organized via setting of the collection points or picking the containers up from the farms. 2) Treatment – depending on the type of collection, baling or shredding is used to reduce the volume of waste transported and as one of the steps in preparation for subsequent disposal, and 3) Disposal – depending on the volume of containers collected, the availability of the necessary infrastructure for recycling, granulation may be used followed by the production of a certain list of end uses, or high temperature incineration in an incinerator or cement kiln with energy recovery, or a combination of these methods.

The feasibility study suggested a roadmap for effective implementation of the CMS including addressing legal gaps, recycling and incineration infrastructure development, incentives programmes for farmers and farmers training as well as business model to sustain and develop CMS pilot.

**Piloting pesticide containers (output 2.1):** The project purchased 15 containers for safe disposal of empty pesticides containers for pesticide retailers for dissemination to the farmers disseminated in 7 pilot area: Mostar, Zivinice, Bijeljina, Brcko, Laktasi, Gradiska and Odzak. The project conducted on site demonstration of environmentally sound management of plastic waste contaminated by pesticides with farmers and retailers. As a result, 3.5 t of pesticide containers properly collected and disposed of (until the time of this evaluation) are shredded and delivered to cement factory in Kakanj for usage as alternative fuel, this is estimated to be around 0.23 g TEq of PCDD/F avoided. The project technical consultants suggested that the target is not feasible for BiH and suggested a target reduction from 30 ton disposal of pesticides containers to 15 ton which means reduction in project target to 1 g TEq of PCDD/F. This change is due to be presented to the board in July 2022 for approval.

It is noteworthy that through those activities the important roles of RDF and cement factories are recognized. The main issue is that waste companies are not capacitated enough to ensure regular supply of RDF for local cement factories.

The pilot is funded by the project for one year only, and future (beyond the project timeframe) cost of collection and transportation is not yet clear. The project team implemented a mini-campaign to raise public awareness on the safe disposal of empty pesticide containers, the campaign included preparing informational leaflets and posters and their distribution to stakeholders, primarily to retailers and local communities.

**Training for trainers on waste containers management system (output 2.1)**: The project developed a training for the trainers of farmers program to establish a framework to achieve a sustainable use of pesticides by reducing the risks and impacts of pesticide use on human health and the environment and to promote the organizing of collection of waste pesticides in an environmentally friendly way. The training programme for the trainers consists of nine different modules, which together form a comprehend whole and cover the basic knowledge that trainers must acquire in order to be able to successfully train the farmers. Each module will be followed by discussion and exchange experience with all participants.

Five trainings were held (2 in Federation of B&H, 2 in Republic of Srpska and 1 in Brcko District B&H). Locations of trainings were: Mostar, Zivinice, Bijeljina, Brcko and Laktasi. The trainees seemed to be highly satisfied with the provided trainings.

Figure 5 training participant’s perception on the usefulness of the acquired knowledge

|  |  |
| --- | --- |
| Trainee assessment of the usefulness of the acquired knowledge |  |
|  |  |
|  |  |

**Training laboratory on the sampling and analysis of POPs and U-POPs (output 2.2):** The project didn’t start this activity yet, it is planned to start by the end of 2022. It should involve conducting a desktop review of laboratories in BiH competent and interested in sampling and analyses of POPs to undergo trainings, and consulted with the relevant working groups whether there are laboratories in BiH that perform sampling and analyses of POPs.

**Illegal import or marketing of chemicals and goods containing or contaminated by POPs (output 2.3)**: The project worked with the Indirect Taxation Authority of BiH (Customs Sector) and developed a manual for customs officers to assist them in detecting and proceeding with import/export of goods containing POPs. Based on the manual, the project trained 31 of the Customs control officers at international borders to improve the efficiency of inspections of imported chemicals and the capacity to identify POPs and other banned pesticides

### Component 3: Implementation of green chemistry principles in plastic manufacturing to prevent the use of and release of new POPs, including the candidate deca PBDE and SCCP

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Outcome/output | Indicators | Baseline | Target | Achieved as of June 2022 | Status at MTE |
| Output 3.1: Training on green chemistry in plastic manufacturing | Number of participants trained on green chemistry in plastic manufacturing | 0 (2019) | 20 (2021)  30 (2022) | 26 companies have been trained so far on green chemistry principles  Total 160 people participated in module 1 and 2 | Achieved  Target exceeded |
| Output 3.2: Non-POP alternative to flame retardants introduced in plastic manufacturing | Quantity (in tons) of polybrominated diphenyl ethers (C-PBDE) replaced by introduction of non-POP alternative to flame retardants in plastic manufacturing | 0 (2019) | 5 tons (2021) 5 tons (2022) | The initial assessment shows no companies using targeted PBDE chemicals have been identified | Indicators are no longer valid |
|  | Quantity (in tons) of short chain chlorinated paraffins (SCCP) replaced by introduction of non-POP alternative to flame retardants in plastic manufacturing | 0 (2019) | 5 tons (2021) 5 tons (2022) | The initial assessment shows no companies using targeted SCCP chemicals have been identified | Indicators are no longer valid |
| Output 3.3: Development of incentive mechanisms to ensure sustainability and replicability of green chemistry initiative in the manufacturing industry | Incentive mechanism to ensure sustainability and replicability of green chemistry initiative in the manufacturing industry developed | No (2019) | Yes (2022) | No incentives for companies to implement the green chemistry principles | Off track |

**Screening of plastic manufacturing companies (output 3.1):** The project created a list of plastic manufacturing companies in the entire BiH, following the consultations with the working groups and relevant institutions. Emphasis was made on the private sector and establishment of cooperation in this sense. The project used the EU’s REACH regulation on chemicals legislation as a very powerful promoter of sustainable innovation and green chemistry and to guide selection of the participating manufacturers. REACH favors innovative new materials and processes by granting potential exemptions from registration for five years for substances used in research and development.

The companies were engaged through “Info Days”, field visits and surveys to establish understanding on the use of SCCP and PBDE in their production lines. As results, no companies were found to use these chemicals, and therefore this particular indicator is no longer valid.

The team of consultants proposed an alternative indicator of “at least 10% efficiency/reduction in annual material flows in targeted companies (e.g. consumption of chemicals, raw materials, energy and/or waste streams) compared to the baseline state of the company.

10% efficiency refers to the annual reduction of material flows (consumption of raw materials, chemicals, energy and / or waste streams) compared to the baseline state. Determining the initial state of consumption of those material flows will be done through environmental audits for each company. Project team will evaluate each proposed measure in the environmental audit reports targeting on reduction of material flows related to green chemistry principles. It is a standard methodology that is also applied in evaluating opportunities for improvement in relation to the 12 principles of green chemistry.

The focus of the project component is to reduce the consumption of chemicals (focusing on substance of very high concern (SVHC)), but since the green chemistry principles covers interventions in other material flows, these options will be also part of the project activities. During the evaluation of the green chemistry principles, it was concluded that the following principles are applicable for companies in BiH:

* Less Hazardous Chemical Syntheses
* Safer Solvents and Auxiliaries
* Real-time Analysis for Pollution Prevention
* Inherently Safer Chemistry for Accident Prevention
* Design for Energy Efficiency
* Use of Renewable Feedstocks
* Waste Prevention

The following principles of green chemistry were assessed as principles with low probability of implementation, because it is unlikely that companies would change the technological process during the period of implementation and monitoring:

* Atom Economy
* Designing Safer Chemicals
* Reduce Derivatives
* Catalysis
* Design for Degradation

For this reason, the focus of the project activities will be on the consumption of chemicals, energy, and generation of waste flows as measures of efficiency. At this stage, it is hard to predict which of these material flows will be selected until audits are carried out in the selected industries. Therefore, the overall efficiency is expressed as the sum of the improvements for all three, two or only one flow.

**Training on green chemistry principles (output 3.1)**: The selected plastic companies have been targeted by a range of training events for the representatives of plastic manufacturers, total of 42 companies have been trained so far on green chemistry principles.

Out of trained companies, the project selected 29 companies to monitor the level of success for adoption of the green chemistry principle based on their readiness to phase out hazardous chemicals, and the amount of PBDE used in manufacturing per company.

Two-day training is organized on 02.02. and 03.02.2022 as a general introductory module 1 on green chemistry’s principles, its position in economy and society held for representatives of BIH industry, institutions and other stakeholders. Training – Module 1 aims to get acquainted with new ideas and innovations in the application of green chemistry in the industrial sector. Presentation of the key principles of green chemistry and the importance of cleaner and sustainable production. Module 1 is intended for the introductory introduction of representatives of industry and other interested parties with the idea and principles of green chemistry, as well as its place in the economy, society and modern trends of sustainable/circular economy. The training was originally planned live, due to the epidemiological situation and restrictions caused by the COVID-19 virus, it was decided to hold the training through the zoom platform, allowing a number of interested parties to attend.

Out of about 300 invitees, the training was attended by **108 participants**, of which 90 were women and 18 were men. There were 26 participants from the industrial sector, 43 representatives of the academic community, 18 participants from relevant public institutions from BiH, the Federation of Bosnia and Herzegovina (FBiH) and RS institutions and 21 other participants (organizers, UNDP BiH, project team and consultants).

Also, the majority of participants believe that this training was understandable, that effective teaching methods were used, that valuable material was provided for future use, and that it enabled the acquisition of skills that can be applied in further work and/or research.

Chart, waterfall chart

Description automatically generated

Technical Guidance and Tools to implement Green Chemistry in Industry (in a form of Manual) made and disseminated to industry representatives.

Module 2 is an advanced module, contains technical guidelines and tools that will serve as a descriptive and instructional instruction on how and why industries and governments should implement green chemistry. It focuses on the use of green chemistry in the plastics manufacturing sector and other industries. The participants of the module will be representatives of industrial companies, as well as high school institutions and research centers. Training module 2 was held 11-13 May 2022. The call for training was forwarded to 90 addresses of industries, representatives of institutions and representatives of the academic community. The training was attended by **52 participants**, of which 29 (56 %) females and 23 (44%) males. There were 28 participants from the industry sector, 1 representative of the academic community, 6 participants from relevant public institutions.

**Info days (output 3.1)**: Info days of green chemistry held in 4 cities from March 4 - 14. 2022 in Mostar, Sarajevo, Brčko, Banja Luka. The goal of holding the info day is to increase the degree of understanding of the benefits of implementing solutions from areas of green chemistry and establishing cooperation with representatives of the industrial sector, and promotion and presentation project components Implementation of green chemistry principles in industry.

**Introduction of non-POP alternative to flame retardants (output 3.1 and 3.3)**: 24 manufacturing plants have been visited. During each visit, the expert group discussed with the plant managers any set of possible GC interventions for the sector in order to raise awareness and collect advice on the practical application of these interventions.

The project developed environmental audits and possibilities of advancing technology based on green chemistry principles. The project signed contracts with 29 companies to undertake the audit over two rounds, 15 companies will be taken in the first round and remaining 14 companies in the second round. **The audit has recently started**.

**Incentive mechanisms to ensure sustainability and replicability of GC initiative (output 3.3)**: The project is supposed to develop incentive mechanism to promote the adoption best practices in green chemistry, substitution of hazardous substances (including POPs or POPs precursors) with safer alternatives and minimization of waste in the manufacturing industry. This should have been done with the support of the entities’ environmental funds, financial institutions specialized in the development and implementation of environmental financial scheme, environmental taxes and environmental incentives. Up till the point of the MTE, this has not been developed, and this may risk the sustainability of the technical assistance that the project has been working on.

### Component 4. Management and disposal of PCBs and POPs from abandoned industrial premises

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Outcome/output | Indicators | Baseline | Target | Achieved as of June 2022 | Status at MTE |
| Output 4.1.1: Risk assessment conducted, and remediation designs developed for at least 2 POPs contaminated sites | A complete Remediation designs for, at least, two (2) POPs contaminated sites will be drafted | 0 (2019) | 1 (2020)  2 (2024) | Remediation and Recultivation Project Design for PCB contaminated location Business Zone “Incel” completed. | On track |

**Risk assessment conducted, and remediation designs developed for at least two contaminated sites (output 4.1).** The project is supposed to identify and inspect two industrial sites under this component, one in Federation of BiH and one in RS to conduct risk assessment (preliminary risk assessment to determine level of risk posed to people and ecosystem), soil sampling and develop remediation design.

So far, the project provided technical assistance to the business zone of “Incel” in Banja Luka in order to detect the level of contamination of this site and surrounding area with hazardous persistent organic pollutants (POPs) namely polychlorinated biphenyls (PCBs). As a result of previous project efforts, several assessments were produced including Fieldwork report, Site Assessment report, and Remediation assessment report. These reports showed certain contamination of soil above remediation target limit (3 mg/kg of PCBs) at 7 locations, but precise and further testing has to be made at those locations additionally to determine the exact level of soil contamination volume affected by POPs/PCBs and further remediation measures and detailed costs fund. In this regard, the Project developed the Remediation and Recultivation Design for the location of the Former Industrial Site “Incel” in Banja Luka, which will allow the fulfillment of above goal. Furthermore, the Design has been a legal mandatory requirement, prescribed by the Rulebook on the Content of the Remediation and Recultivation Design (Official Gazette of RS, no 97/2020) and is necessary prior launching any remediation work. It is noteworthy that UNDP managed to obtain co-funding from the RS Environmental Fund for this purpose. It is assessed that total funds of KM 225 000 shall be needed for this purpose, whereas the Fund shall provide KM 160 000 while KM 65 000 shall be provided by UNDP (through Swedish funding).

The project developed remediation plan to provide a detailed description of works and operational plans for the remediation works that will be carried out at INCEL site. This included:

* Preparation and set-up of the INCEL hotspot sites for the remediation works
* Excavation and safeguard of the PCB-contaminated soil
* Export and incineration of PCB-contaminated soil with concentrations ≥50 mg/kg d.m. to a licensed incinerator
* Export and disposal of PCB-contaminated soil with concentrations bellow <50 mg/kg d.m. and construction debris to a licensed landfill
* Monitoring and project closure.

With respect to the site in Federation BIH similar work shall be performed once when the site has been identified. The process of identification and selection of the site in Federation BIH will be based on the results of development of POPs detailed inventory. As stated, the inventory will make a long list of 29 locations where 17 locations shall be subject of shortlisting and preliminary risk assessment. Further short-listing will be done from the list of 17 locations, top 3 locations shall be selected including counterpart, geographic location, available budget and capacity building.

The target is on track in terms of achieving the design, however the MTE notes that there is limited signs of operationalization of the remediation by concerned authorities.

### Component 5. Monitoring, learning, adaptive feedback, outreach and evaluation

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Outcome/output | Indicators | Baseline | Target | Achieved as of June 2022 | Status at MTE |
| Outcome 5.1: Project results monitored, adaptive management applied, lessons-learned, experiences, and best practices extracted and disseminated at BiH wide and regional level | Documentation of project results and achievements | NA (2019) | 1 comprehensive document containing all relevant information on project results and achievements consolidated (2023) | NA for MTE | NA |
| Output 5.1.1: Adaptive management applied, lessons-learned, best practices and experiences collected and disseminated at BiH wide and regional level to support replication | Methodology for POPs monitoring and evaluation of results developed | 0 (2019) | 1 methodology developed (2023) | NA for MTE | NA |
|  | Study visits to the institutions from the region for showcasing the best practices of POPs M&E to the relevant institutions organized  Number of people participated to the study visits | 0 (2019)  0 (2019) | at least 2 study visits organized (2023)  20, at least 20% are female participants (2023) |  | NA |
|  | Number of trainings on POPs-related gender mainstreaming | 0 (2019) | 1 (2021) | 1-day gender training conducted | Achieved |
|  | Number of trainings for Project's employees and Project partners on POPs-related gender mainstreaming | 0 (2019) | 1 (2021) | 1-day gender training conducted | Achieved |
|  | Number of POPs-related awareness-raising campaigns organized | (2019) | 4 in total:  0 (2020)  1 (2021)  2 (2022)  1 (2023) | Four open air events for citizens held in four major cities to promote understanding of POPs among the general population. In -addition, several products developed to promote project visibility such as the project video, several photo stories, new leaflets and others. | Achieved |
|  | Number of POPs-related awareness-raising events organized in cooperation with local NGOs and CSOs | 0 (2019) | 1 (2022)  at least 2 (2023) | Not yet | Achieved |
|  | Estimated outreach on chemicals safety and risks, targeted toward the general public and vulnerable populations | 0 (2019) | awareness raising events:250, at least 30% are females (2021), 250, at least 30% are females (2022), 250, at least 30% are females (2023)  social media channels: 8,428 (2020), 10,000 (2021), 20,000 (2022), 20,000 (2023) | The project designed and implemented multiple events.  Social media posts: 43 on Facebook in TOTAL / Approx. 1.26 monthly  30 twitter posts in total /Approx. 0.88 monthly | On track |

**Gender analysis (output 5.1):** The project conducted gender analysis at the early stage of the project implementation, and the analysis report recommended integrating gender in the project through:

* Project should take measures to ensure that women are included in all Project aspects- from decision making positions, steering boards, media representation activities (giving press statements), conference speakers- as well as measures will be taken to ensure a proportionate representation in all Project activities, such as awareness raising and trainings,
* Respect equal participation of women and man in decision making processes, as per defined in Gender Equality Law in BiH,
* Harmonize relevant laws, by-laws strategies and policies with Gender Equality Law in BiH,
* Project should commit to collect sex disaggregated data and implement Project Monitoring and Evaluation System Conduct needs assessment,
* Include local communities and local NGOs in the campaign to introduce specific hazard of PoPs on women, man, boys and girls.

**Gender training (output 5.1)**: One day gender training was organized on May 6, 2021 for the representatives of institution by an individual consultant. The training included presentation of topics related to gender equality and obligations of BIH with regard to international treaties in the context of gender equality and gender mainstreaming as a tool for gender equality. In total, 19 participants attended the gender training and received certificates of completions.

Furthermore, in order to promote project’s visibility and understanding of POPs among the general population, BORAM Marketing advertising agency was contracted to provide a range of several promo and advertising activities to promote project visibility (e.g. organization and delivery of four open air events with appropriate materials such as a new project leaflet, quiz, photo exhibition; organization of high-profile event such as Green Chemistry’s kick-off event, appropriate media/promotion of other POPs training events, development of project accomplishments’ video, etc.) .

**Communication and visibility strategy (output 5.1):** The project developed a Communications and Visibility Strategy in 2019. The strategy goal is to raise awareness about the dangers that POPs pose to human health and the environment, and it defines specific messages to specific audiences.

Other communication goals are:

* To underline the importance of the Stockholm Convention and its full implementation through legislative framework in BiH.
* To underline the necessity of full National Implementation Plan implementation by decision makers on all levels.
* To develop awareness about health risks related to POPs and how the public can act in that regard.
* To raise awareness among polluters on the importance of green chemical principles and proper waste management as responsible business practice.
* To increase knowledge of women and man in public, private and civil society organizations how exposure to POPs can have negative impact of health and the environment.
* To raise knowledge of decision makers how levels of exposure to toxic chemicals are determined by social roles, women, men, and children are exposed differently to toxic chemicals in daily life.

[**POPs Virtual Platform**](https://popsinfo.com/floor/28) **(output 5.1):** The project created an online POPs virtual platform as a hub for sharing knowledge and raising public awareness. The online platform offers variety of technical information, simple videos and virtual-reality style of presenting the information. The platform is diverse in the tools an offers a room for interactive experience.

**Side event at the Stockholm Conference of Parties (output 5.1)**: On June 16, 2022, UNDP POPs project was presented at a dedicated side event at the Conferences of Parties to the Basel, Rotterdam and Stockholm Convention’s meetings in Geneva. Mrs Azra Rogovic-Grubic, the Stockholm Convention National Focal Point at the Ministry of Foreign Trade and Economic Relations of BiH presented the project results to date and discussed challenges in implementation of the Convention, particularly when it comes to environmentally sound disposal of POPs waste. Ms. Alma Mirvic, Project manager presented a new virtual learning platform on POPs that aims to serve as a knowledge hub to sensitize the public about Persistent Organic Pollutants and provide expert information about correlations of POPs and industry, agriculture et cetera. **16 participants** attended the event, including representatives of UNEP, Ministry of Environment Protection of the Republic of Serbia, Environmental Protection Agency, NGO Arnika Czech Republic, Environmental Management Agency Zimbabwe, Italian Ministry of Ecological Transition, Uruguay Ministry of Health et cetera. **This was a great opportunity for networking and initiating many interesting contacts that will benefit to the implementation of Project activities**.

**Awareness rising campaign in the country (output 5.1)**: Four open air events for citizens held in four major cities to promote understanding of POPs among the general population. In addition, several products developed to promote project visibility such as the project video, several photo stories, new leaflets and others.

**Lesson learned (output 5.1):** Accumulation of all materials project produced, training modules, researches, lessons learned, best practices used in one comprehensive document. It is recommended that the project team to consolidate all project materials into one comprehensive document divided by the chapters or several smaller thematic documents.

### Component 6. Development of inventory of cooling equipment using ozone depleting substances

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Outcome/output | Indicators | Baseline | Target | Achieved as of June 2022 | Status at MTE |
| Outcome 6.1: Emissions of ozone-depleting substances (ODSs) avoided through the establishment of capacity for proper segregation and management of appliances and equipment containing ODSs | Proper segregation and management of waste and equipment containing ODS established | No (2019) | Yes (2021) | The indicator is not clear if it is about the physical solution for segregation and management or about technical assistance to do so. The project delivered lots of activities in relation building the capacity in this regard but no physical solutions provided | Unable to measure |
| Output 6.1.1: Emissions of ODSs prevented and management of ODSs improved | Number of appliances and equipment inserted into the database | 0 (2019) | 300 (2021) | 754 (338 FBIH, 415 RS i 1 BD-BIH) | Achieved |
|  | Number of owners/operators of appliances and equipment inserted into the database | 0 (2019) | More than 300 (2022) | 303 (176 FBIH, 126 RS, 1 BDBIH) | Achieved |
|  | Number of authorized repairers (servicing technicians) of refrigeration equipment and appliances inserted into the database | 0 (2019) | up to 30 (2022) | 168 (101 FBIH, 61  RS, 3 BDBIH)  Number of service companies: 84 (48 FBIH, 33 RS, 3 BD BIH) | Achieved |
| Outcome 6.2: Capacity for monitoring of ODSs in relevant value-chains established | Number of legislative documents regulating the issues of ODSs updated | 5 (2019) | 4 (2021) | 9 (1 (BIH level), 3(FBIH level), 4 (RS level), 1 (BD BIH level) drafted for BH, FBIH, RS and Brcko District not endorsed yet | On track |
|  | Service Record System for appliances and equipment inserted into the database established | No (2019) | Yes (2022) | Yes | Achieved |
|  | Inspection of equipment, service records, repairers, equipment importers by environmental inspectors; | No (2019) | Yes (2022) | Yes | Achieved |
|  | Number of trainings for employees of administrative institutions on monitoring and reporting the import of ODSs organized | 0 (2019) | 2 (2022) | 2 workshops  First Workshop for industries – Oct 2020.  Second Workshop for industries – July.2021 | Achieved |
|  | Number of trainings for employees of industries involved in the project | 0 (2019) | 2 (2022) | Same workshop as above - First Workshop for industries –Oct .2020 ;  Second Workshop for industries - July.2021; Presentation of the project in Foreign Trade Chamber of BiH Oct.2021) | Achieved |
|  | Number of employees of industries involved in the project that attended the trainings | 0 (2019) | 20 (2022) | 20, at least 20% are female employees  1st training -15 employees from private sector, 11 were women  2nd training-data will be updated on 1st July | Achieved |
|  | Number of employees of administrative institutions that attended the trainings | 0 (2019) | 20 (2022) | 57, at least 30% are female employees  In total 43 individuals attended, including 13 government reps (7 women); 2 academic community 15 private sector, and 15 others | Achieved |
|  | Number of meetings for regional experience-sharing regarding the ODSs-related databases | 0 (2019) | 2 (2022) | 4 (Kick – off meeting – 14.09.2020; First Workshop for industries – 15.10.2020; Second Workshop for industries – 01.07.2021;  Presentation of draft database – 19.10. 2021) | Achieved |

The aim of this additional project Component include the following:

* Prevention of emissions of these substances that have a very high global warming potential;
* Further implementation of the Montreal Protocol on Ozone-Depleting Substances (ODSs) and their alternatives;
* Enhancing implementation of the currently applicable legislation on ODSs and their alternatives in BiH;
* Enforcing the mandatory checks of refrigerant leaks by the owners of the equipment and by authorized repairers;
* Strengthen the linkage and harmonize efforts taken in addressing the POPs, ODSs and energy efficiency issues and activities in BiH;
* Improvement of Regulations on gradual phase out of ozone depleting substances that will include F-gases with greenhouse effect;
* Data exchange between EMIS (Energy Management Information System) in public building sector and Register of cooling devices and ODSs and their alternatives.

**Inventory/database on ODS (output 6.1)**: Database management System developed and presented to selected stakeholders and all necessary data collected in the field. Procedures for evidence and leak check of equipment with 3 and more kgs of refrigerant was developed as a part of the drafted regulative. The initial database will contain data on HVAC equipment operators, service workshops, HVAC equipment service providers, which is very important for the establishment of HVAC equipment registration system and implementation of regular emissions control and support to the Ozone Unit of BiH in planning future activities. In order to enable easy use of the database and reporting, the created HVAC database should be further transformed into a "software" application or “web based” application,

Collection of the data started in January 2021 and resulted with:

* Number of appliances and equipment inserted into the database: 754 (338 FBIH, 415 RS, 1 BDBIH)
* Number of owners/operators of appliances and equipment inserted into the database: 303 (176 FBIH, 126 RS, 1 BDBIH)
* Number of authorized repairers (servicing technicians) of refrigeration equipment and appliances inserted into the database: 168 (101 FBIH, 61 RS, 3 BDBIH)
* Number of service companies: 84 (48 FBIH, 33 RS, 3 BD BIH)
* Number of importers of equipment and devices inserted into the database:33 (21 FBIH, 10 RS, 2 BDBIH)

All collected data was successfully inserted in final version of the database and reported as

an activity within deliverable 5.

**Training and presentation of ODS database (output 6.1)**: In the course of developing ODS database, the Project held two training sessions \* 2 for industrial institutions and administrative agencies employees. The training focused on monitoring and reporting of ODS for several groups including administrative institutions, and relevant industries and environmental inspectors.

**ODS legislation (output 6.2)**: The project reviewed current legal framework on ODS and provide proposals for updating existing and/or development of new legislative acts required for full compliance with international environmental treaties (the Montreal Protocol, Kigali amendment) and relevant EU directives. **Legal framework governing outstanding issues concerning management of Ozone Depleting Substance (ODS) is drafted.**

The project delivered a report on Gap analysis with proposals for update of the existing and development of new legislative acts, review of certification system for service technicians, with a view to the integration of the HFCs refrigerants under controlled substances regime, and review of owners of cooling equipment and HVAC appliances developed and presented on the meeting organized online on February 5, 2021 (15 participants (9 female, 6 male). Final versions of updated/developed legislative acts was developed and presented at the online meeting organized on July 7, 2021 (7 participants (5 female, 2 male). In total 9 legislative acts were developed.

### Component 7. Responsible management of potentially infectious waste in relation to the COVID-19 public health crisis

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Outcome/output | Indicators | Baseline | Target | Achieved as of June 2022 | Status at MTE |
| Output 7.1.1: Households with COVID-19 positive members or those in self-isolation dispose of their waste responsibly and safely, while the general population is aware of the responsible behaviour in terms of waste disposal during the public health crisis | Developed instruction for waste handling of the potentially infectious waste treatment at home | No (2020) | Yes (2020) | Yes | Achieved |
|  | Simple communication strategy with devised key messages developed and validated by key stakeholders | No (2020) | Yes (2020) | Yes | Achieved |
| Output 7.1.2: Current medical waste management practices and facilities in health care institutions in the most COVID-19 affected areas are rapidly assessed and capacitated to accommodate the newly-generated waste, as well as prepare the system for events of similar nature in the future | Report on rapid scan of the medical waste disposal practices during the public health crisis | No (2020) | Yes (2020) | Yes | Achieved |
|  | Number of separate waste disposal equipment and medical waste treatment facilities procured | 0 (2020) | 3 (2020) | 9  2 sterilizers  3 autoclaves  1 shredding machine  3 ADR vehicles | Target exceeded |
|  | Updated database on medical waste generation | No (2020) | Yes (2020) | Yes  (GIS data base developed) | Achieved |
|  | Analyse of the quantity and type of medical waste produced in healthcare institutions developed | No (2020) | Yes (2020) | Yes | Achieved |
|  | Number of healthcare workers trained to apply the best international practices for separation and overall handling of medical waste in healthcare institutions | 0 (2020) | 100 (2020) | 286  female: 206  male: 62 | Achieved |
| Output 7.1.3: Public utilities for waste management are capable to effectively and safely provide waste services in the public health crisis. | Localized protocols for treating potentially infectious household waste for waste management companies developed | No (2020) | Yes (2020) | Yes | Achieved |
|  | Number of personal protective equipment sets for workers collecting household waste in target communities procured | 0 (2020) | 700 (2020) | 1058  in 24 healthcare institutions | Achieved |

The addition of this component aimed to support authorities to offer an effective response to the mismanagement of medical waste in BiH, including potentially infectious one, during and immediately after the 2020 COVID-19 outbreak. The activities had been focused on household waste that originated from infected or potentially infected persons as well as household waste from single-use masks and gloves disposal, and medical waste generated in medical care facilities during the public health crisis. The intervention targeted leverage points in the entire “life cycle” of above listed waste categories starting from: (a) addressing the two main sources of its generation including households (and individuals) and medical care facilities, further to (b) its collection and disposal by waste management public utilities and other waste management operators; and ultimately to (c) improving the overall capacities for coordination among actors in charge of the medical waste management system to better respond to the rising amounts of medical waste during crisis.

**Responsible behavior in terms of waste disposal during the COVID Pandemic (output 7.1.1)**: A rapid assessment on management of household waste was done by ten (10) utility companies in municipalities mostly affected by COVID-19 pandemic. In addition, the personnel employed with those utility companies received personal protective equipment to facilitate their everyday operations.

The project developed instructions for waste handling and treating of potentially infectious waste treatment at home, and also developed and delivered a simple communication strategy with key messages devised and validated by key stakeholders. The COVID communication plan includes comprehensive educational and information campaign how to properly and responsibly dispose of waste during a pandemic, especially in households, health care institutions, i.e. public utilities and other waste management operators.

|  |  |
| --- | --- |
| Figure 6: Pictures of promotional material produced by the project |  |
| C:\Users\Azra\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Outlook\PT5L5ASI\IMG-e2569917ba9956cc298166d72d7fe8ab-V.jpg |  |

Also, an outdoor campaign has been rolled out. In this regard, billboards were distributed to 14 outdoor locations in three major cities including Mostar (in period of one month, from 30 September – 29 October 2020), Sarajevo and Banja Luka ( in period of 15 days, 30 September – 14 October 2020).

Furthermore, an educational animated video has been developed and broadcasted. The campaign entitled “Odvoji, zaveži, odloži!” was placed on the mainstream media, including TV 41 second spot that was placed on TV stations FTV, RTRS, BN and OBN with 79 broadcasting of this TV spot in period from 22 October until 4 November, resulting with total 3 160 seconds in the air. The reach was 37,51 % on total population ( 4+ ) or approximately 1.200.000 people.

The TV spots are available on links:

<https://www.youtube.com/watch?v=AAQuZWR1Btg>

<https://www.youtube.com/watch?v=up--jXPyLGg>

Also, digital banners ads have been designed and produced. These materials were designed and produced on 23 September 2020. In addition, campaign messages were also promoted through major web portals: klix.ba, bljesak.info, hercegovina.info, nezavisne.com, biscani.net, buka.com in period from 26 September until 15 October 2020 with 450 000 impressions and 314 612 people reached.

**Medical waste management practices and facilities in health care institutions in the most COVID-19 affected areas (output 7.1.2)**: The project developed rapid scan the medical waste disposal practices during the public health crisis, procured separate waste disposal equipment and medical waste treatment facilities for six (6) hospitals and 20 outpatient clinics , and updated databases on medical waste generation in the country and analyse the quantity and type of medical waste produced in healthcare institutions. The project also delivered training for healthcare workers.

**Nine (9) sterilizing medical devices** for the treatment and management of infectious waste were procured, and 286 healthcare professionals within 25 healthcare facilities were trained on proper management of medical waste, and Personal protective equipment (masks, gloves and other expendables) was secured for healthcare workers in 24 healthcare institutions.

**Six workshops for medical workers (output 7.1.2)** were conducted between Nov-Dec 2020 on “Medical waste management treatment during COVID-19 pandemics” were organized. In total, **210 medical workers** from 25 health institutions located at 20 cities throughout BIH participated in these workshops using zoom platform.

During the workshops, medical workers were introduced with the latest World Health Organization (WHO) guidelines for medical waste management during COVID-19. Medical waste experts presented to attendees an appropriate methods of separation, packaging, marking, transport, treatment and disposal of medical waste as well as how to use appropriately the protection equipment.

**Two guides developed and distributed (output 7.1.1 and 7.1.2)**:

* A Guide/recommendations for proper monitoring and handling of the infectious waste with focus on waste potentially contaminated by COVID 19 virus
* A Guide/ recommendations for protection measures for staff handling the health care waste followed by appropriate manual are developed and shared with the medical institutions.

**Equipment and tools to combat the COVID pandemic (output 7.1.3)**: The project supported health utilities with number of equipment and machineries to help the fight against COVID 19. These included

* Autoclave for sterilization
* Specialized ADR vehicle for transport of infections waste
* Waste sterilizer, PPE, container and begs
* Two vertical autoclaves
* Waste shredder machine

Figure : Pictures of equipment and tools provided by the project (in order: Autoclave for sterilization, Waste sterilizer, Waste shredder machine, and Specialized ADR vehicle for transport of infections waste

|  |  |  |
| --- | --- | --- |
| Autoclave for sterilization | Waste sterilizer | Waste shredder machine |
|  |  |  |
| Specialized ADR vehicle for transport of infections waste | | |
|  | | |

**Public utilities for waste management are capable to effectively and safely provide waste services in the COVID pandemic (output 7.1.3)**: The project conducted a rapid situation assessment on operational health and safety measures in place by waste management companies, and compiled localized protocols for treating potentially infectious household waste for waste management companies, and procured personal protective equipment for workers collecting household waste in target communities.

286 healthcare professionals within 25 healthcare facilities were trained on proper management of medical waste.

### Factors that have contributed to achievements

There are a number of factors that have contributed to the accomplishments thus far. These should be anchored in further work in the concluding stage of project in order to generate sustainable achievements. Some are internal to the project and some are external factors. The contributing factors identified are as follows:

* **Investment in capacity building.** The project invested heavily in capacity building, several trainings have already been delivered and large number of people trained in total across all activities. There has been a high degree of investment at both national and local capacity building, not only individual capacity upgrading but also institutional capacity strengthening including setting up database and future reporting mechanisms. This is potentially a contributing factor not only for effectiveness features but also for sustainability.
* **Adaptive management:** Adaptive management was used regularly to adapt to a constantly changing environment in this project. The project experienced multiple changes since the beginning, these included change on the project scope by adding two additional components to meet emerging needs from the Ozon Depletion Substances (ODS) and COVID response. Also, the project needed to re-prioritize Incel remediation plan to deal with the emergency situation and the significant health risk after the site has been exposed to fire. Administratively, the project adapted to the needs by re-shaping the project management team, and engaging technical expertise as consultants. It should be noted here that these adaptive measures would not have been achieved without the support from the donor side (i.e SIDA) who demonstrated enough flexibility to accommodate these adaptive measures.

### Factors that hinder achievements

There also a series of factors that are constraining factors for achievements / effectiveness thus far.

* **COVID 19 pandemic:** The COVID pandemic has imposed wide range of issues upon the project, the COVID-19 has had an indelible impact on effectiveness and has been a hindering factor in obtaining achievements. Impact has not only been at the administrative level, but also at the policy level from shifts in Government priorities to address the emerging needs of COVID.

Some the direct COVID impacts on the project were:

* + COVID-19 outbreak and subsequent quarantine measures imposed by the Government have had negative impact on implementation of a number of the project outputs as per workplan, particularly on those activities that involve travel, both international and local (workshops and trainings
  + Meetings and consultations with local authorities and government organizations were particularly hard especially that digital solutions are not mature enough at the stakeholder side.
  + Inability to conduct field work on identification and implementation of pilot business projects.
* **Availability of technically sound expertise locally**: The nature of the project activities is very technical and specialized in the area of POPs and hazardous waste. The project struggled at the beginning to identify local expertise to deliver technical activities. As an adaptive management measure, the procured consultants were consortium composed of local company Ceteor from Sarajevo (the consortium leader), RECETOX research center at the Masaryk University at Faculty of Science from Czech Republic and Public Institute for Protection and Ecology of RS from Banja Luka had been selected to provide legislative and training assistance with respect to streamlining BIH with the Stockholm Convention. It is also believed that further involvement of international expertise on management of POPs would provide another opportunity for further improvement of the existing national expertise.
* **Stakeholder engagement issues:** Some of the interviewed stakeholders expressed dissatisfaction with some elements of the engagement process. Specifically, concerns raised around balancing the engagement among stakeholders in a way that respects all stakeholders mandates, clarity on roles and responsibilities, and also the need to further promoting Government ownership of the project and its outcomes.
* **Complex political environment in BiH:** The current political environment in BiH is a complex one and involves multiple levels of authorities. Achieving consistency and consensus across the board (especially in case of POPs legislation) is particularly challenging in this environment. The project has successfully activated the working groups to facilitate discussion and is expected to be on the right track to get consensus on the legislations.
* **Media pressure:** Particularly after the fire in Incel site, there has been enormous pressure by media to address the issues there immediately. The UNDP and the POPs project have experienced unprecedented pressure from media and subsequently from Government to consider bringing the remediation plans of Incel forward, and this led to disturb other project activities and timelines as resources needed to be focused on Incel urgent issues. It is important to note that media pressure, despite negative impacts on the project timeline, but it is promising to see media is campaigning for environmental issues related to the POPs. At the time of this evaluation, the project is implementing training activities targeting media to support appropriate reporting of POPs-related matters and increase the visibility of the project.
* **Undefined funding model for disposal activities:** As discussed earlier in the section 4.2. The project has no appropriate funding model for the ultimate disposal of the POPs and POPs-contaminated equipment, as this is now clearly becoming impediment that impose serious risk on achieving final disposal target and meeting the Stockholm convention deadlines for PCBs disposal.

## Impacts

|  |
| --- |
| Findings and conclusions |
| 1. There is ample evidence that the project achieved impacts related to reduce the exposure to hazardous waste through increasing awareness and capacity building, and more reduction in exposure is anticipated when the final disposal of POPs takes place. The exposure of a 3,000 daily users of Incel site to hazardous waste has been mitigated and will be further eliminated once remediation is completed. Farmers changing practice in dealing with pesticides containers as well reduced exposure to the hazardous material, in addition to increasing awareness and capacities of stakeholders in managing hazardous waste. Also, the project contributed to reduce the health impacts of COVID by supporting medical waste management and treatment at facilities and homes. 2. The main challenge to long-term impact of the project is the collection, consolidation, temporary storage and ultimate disposal of the stockpiles of POPs-contaminated material, specifically PCBs-contaminated transformers. Implementation of the project activities focused exclusively on preparation of POPs waste for ultimate disposal abroad and no financing solutions until now defined for the disposal. |

An impact evaluation explores the effects (positive or negative, intended or not) on individual households and institutions, and the environment created, by a given development activity such as a programme or project. And because impact-related evidence is very limited, this evaluation involved mix method (interviews and surveys) to investigates changes beyond outputs noting that impacts have not fully materialised at this point of MTE.

## Reduce exposure to POPs impacts

The project beneficiaries reported through the survey that staff and communities are now less exposed to the impact of the hazardous waste as a result of the UNDP project, such as awareness, capacity building and equipment provision. 66% (n=31) have agreed that the project will reduce the exposure of the community to the impacts of the hazardous waste, and 64% (n=31) also agreed that the project will reduce the exposure of the staff to the impacts of the hazardous waste. It is noted that 32% of the respondents (n=31) have neither agreed nor disagreed with these statements, this may be attributed to the fact that despite the project efforts the contamination has not yet been totally removed and the physical exposure might still be there, which the project needs to address in the second half of the project timeframe.

Figure 8: Beneficiaries perception on the reduction of the exposure to the impacts of hazardous waste

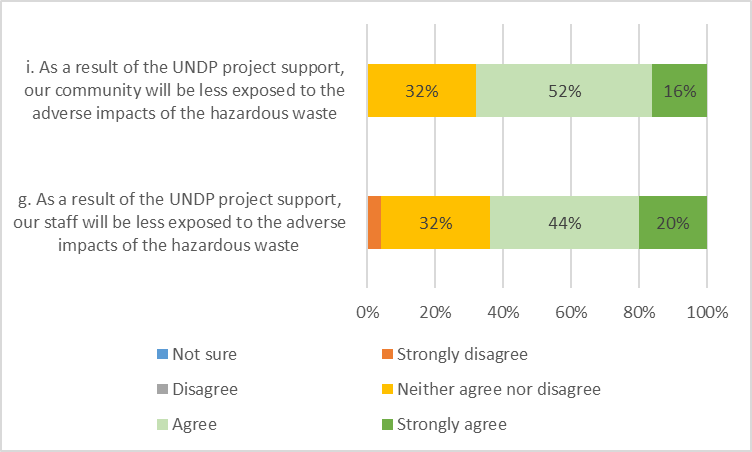


Table : Examples from the field on reducing farmers’ exposures to hazardous waste

|  |
| --- |
| Examples from the field on reducing farmers’ exposures to hazardous waste |
| Odžak is a town and municipality located in Posavina Canton of the FBiH, situated in the northern part of BiH, near the river of Sava in the plains and fertile area. Municipality area is 118 km2 with over 8 thousand inhabitants working mainly in agriculture.  Poljoprivrednik d.o.o. is engaged in the cultivation of plant crops (mercantile field crops and oilseeds), seeds and seedlings on an area of 60 ha of arable land. They also cooperate with 48 farmers who delivery their crops to their company for further process. Poljoprivrednik d.o.o. use significant amounts of chemicals for protection of crops and had a huge problem with hazardous waste package management.  Farmers in Ožak often burned hazardous waste in the field, or put it into the bags and placed into the municipal waste. Hazardous waste caused them a problem because sometimes waste displacement companies did not want to receive them and farmers did not know how to get rid of hazardous waste. Poljoprivrednik d.o.o. received two containers from the UNDP POPs project to store hazardous packages from pesticides and big bags for waste storage.  25 farmers from Odžak municipality also received training and instructions on how to treat packages from hazardous pesticide waste starting from emptying, rinsing, drying to shipping to the containers properly at collecting point in Poljoprivrednik doo.  Transportation of hazardous waste is organized by UNDP through the company KEMIKO.  Their workers who work on the sprayer machine received training on how to flash the bottles, place them in bags and then place them in the containers allocated for hazardous waste only. Farmers and Poljoprivrednik d.o.o. raised awareness of other farmers about proper waste management and realised the benefits of mainly less exposure to the pesticides, and also more efficient use of the pesticides liquids because of the proper washing of the bottles.  Picture of the containers and container disposal process by a farmer |
| One of the collecting points for hazardous waste is placed in Maočanka-Commerce d.o.o. the private company, with its headquarters in Maoča in the Brčko District of BiH. Its main activity is production, trade, purchase, processing of fruits, berries and medicinal and aromatic plants. The company has 40 cooperants – farmers from nearby areas.  They placed hazardous waste in the community waste containers. There were farmers who burned waste packages from pesticides in the field with open flame. UNDP POPs project delivered jumbo bags to the farmers and container for hazardous waste storage to the collecting point at Maočanka-Commerce d.o.o.  The farmers and workers from Maočanka-Commerce d.o.o. received training on how to manage hazardous waste during the whole process from pouring out the pesticide till placement to the container at the collecting point. It is already a common practice that the farmers bring their products to Maočanka-Commerce d.o.o. and now they just bring the hazardous waste too. Farmers said it is not expensive to transport hazardous waste to the collecting point since they are in the same neighbourhood area. Both farmers and Maočanka-Commerce d.o.o. management are very satisfied with cooperation with UNDP. The training helped to raise awareness on hazardous waste management and how to keep the whole process safe.  Picture of a containers and empty containers inside |
| Waste collecting point in Bijeljina is located at Agrotržni centar Bijeljina, managed by Association of agriculture producers Semberija. The farmers used to place packages from pesticides in bags and then place them in the municipal waste.  The collecting point at Agrotžni center received two containers from the POPs project, and farmers received training and awareness raising on the need to keep safe and manage dangerous waste properly. It is also noted that the Bijeljina area needs many more containers in different locations since the agriculture area is huge and spread around.  PD Semberija a.d. Bijeljina is a large producer of cereals (except rice), leguminous crops and oil seeds received in two containers and they are used. They had a lot of problems managing dangerous waste before. Now with containers, trained staff and organization of waste disposal by KEMIKO they have more time to dedicate it to production. |

**Reduce exposure of 1,500 permanent employees and 1,500 visitors every day to POPs in Incel.**

Incel is Located in the city of Banja Luka (the second largest city in BiH), app. at 3 km distance from the city centre, the former industrial complex INCEL Banja Luka Cellulose Factory was established in 1954 and became the major industrial conglomerate in the field during the socialist era, originally manufacturing cellulose, viscose, and paper products. Currently and according with the information provided on the Phase I assessment by TAUW in 2019, there are 1,500 permanent employees and 1,500 visitors and temporary workers (i.e. trespassers) every day.

Previous investigations of INCEL area, from the period 2005 – May/June 2019 are thoroughly described and summarized in the Phase I assessment produced by TAUW in 2019 (4). These are the following historical activities. Analytical results of PCB in oil and soil carried out in 2005 as a part of Project APOPSBAL - Assessment of the selected POPs (PCBs, PCDDs/Fs, OCPs) in the atmosphere and water ecosystems from the waste materials generated by warfare in former Yugoslavia, coordinated by Research Centre for Toxic Compounds in the Environment (Masaryk University, Brno, Czech Republic). In addition to the work performed by TAUW, additional investigations were conducted by the Banja Luka City Environmental Inspectorate in October/November 2019 and in November/December 2019. Their results confirmed the seven hotspots identified by TAUW Site Assessment in 2019 (4) and identified also next PCB hotspots in the INCEL area.

Fire broke out in the area of the old power plant, now Lukic Invest at 7.30 am on March 9th, 2019. The fire brigade controlled the fire in 40 minutes by using foam. In the later inspection finding it is assumed, that transformer oil caught on fire during cutting of transformer. The result of this fire may be a potential soil and groundwater contamination with flame retardants, Polycyclic Aromatic Hydrocarbons (PAH), Total Petroleum Hydrocarbons (TPH) and PCBs.

In July and September 2021, the project conducted a detailed field investigation of the previously verified seven hotspots in INCEL area and an analytical evaluation of the collected 595 samples of soil and construction debris were carried out. The investigation was focused on detail specification of the level of PCB contamination and verification of the presence of heavy metals and hazardous waste properties of the wastes in order to design the remediation and recultivation project.

The evaluation of the investigation work can be summarized in the following points:

* 240 samples out of the total number of soil samples collected (503) have PCB concentration less than 1 mg/kg d.m. and 240 samples out of the total number of soil samples have PCB concentration in the range 1-50 mg/kg d.m. 23 samples out of the total number of soil samples collected (503) exceeded or were equal to 50 mg/kg d.m. of PCBs.
* 55 samples out of the total number of construction debris samples collected (92) have PCB concentration less than 1 mg/kg d.m. and 31 samples out of the total number of construction debris samples collected (92) have PCB concentration in the range 1-50 mg/kg d.m. 6 samples out of the total number of construction debris samples collected (92) exceeded or were equal to 50 mg/kg d.m. of PCBs

According to DEKONTA’s Risk Assessment in 2020, the results confirmed that the priority pollutant present at INCEL area is the group of polychlorinated biphenyls (PCBs) with concentrations in the investigated matrices exceeding either U.S. EPA screening levels or the limits defined by the existing (or planned) legislation.

The following risk receptors inside and outside INCEL area include current employees working in the non-contaminated parts of INCEL area (e.g. in offices, storehouses etc.), and visitors of INCEL area. Approx. 1,500. Number of visitors and temporary workers is also exposed to the contamination through inhaling ambient air containing dust particles from contaminated surface soil and construction materials.

The project developed remediation plan to provide a detailed description of works and operational plans for the remediation works that will be carried out at INCEL site. This included:

* Preparation and set-up of the INCEL hotspot sites for the remediation works
* Excavation and safeguard of the PCB-contaminated soil
* Export and incineration of PCB-contaminated soil with concentrations ≥50 mg/kg d.m. to a licensed incinerator
* Export and disposal of PCB-contaminated soil with concentrations bellow <50 mg/kg d.m. and construction debris to a licensed landfill
* Monitoring and project closure.

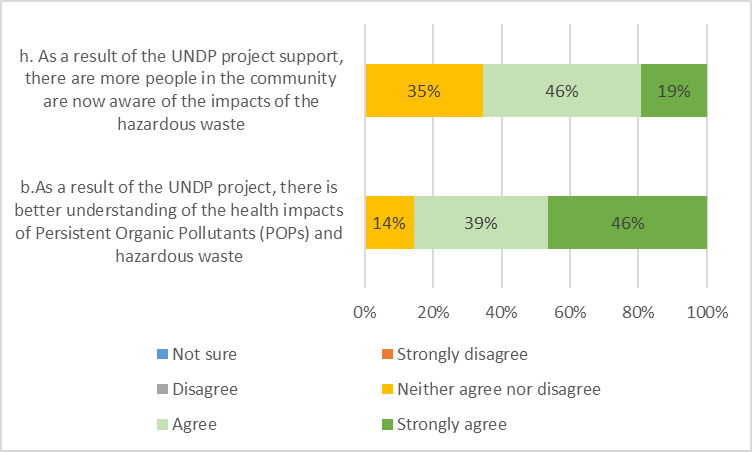
Figure : Incel conceptual map



## Increase awareness and understanding

The project implemented multiple awareness activities including, not limited to, four open air events for citizens held in four major cities to promote understanding of POPs among the general population, a mini-campaign targeting farmers to raise public awareness on the safe disposal of empty pesticide containers, YouTube videos, virtual online site and so many publications. The impact of these activities is mainly to increase understanding of the POPs adverse impacts and strengthen the ability to deal with hazardous waste. 85% of the beneficiaries responded to the survey (n-31) agreed that there is better understanding of the health impacts of Persistent Organic Pollutants (POPs) and hazardous waste as a result of the UNDP project, and 65% agreed that there are more people in the community are now aware of the impacts of the hazardous waste.

Figure 10: beneficiaries perception on the level of the understanding of the hazardous waste impacts (n=31).

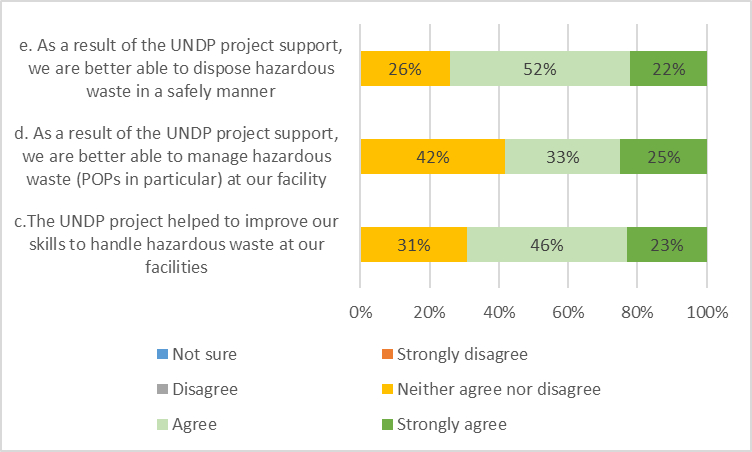


## Capacity development

The project exerted massive efforts in building institutional and individual capacities of the project stakeholders and beneficiaries on different matters including trainings on containers management, green chemistry principles, legislations, ODS and COVID. The desired impacts of these activities are envisaged to have better skills, better ability to manage and dispose the hazardous waste.

As per the graph below, 69% (n=31) of the survey respondents agreed that UNDP project helped to improve their skills to handle hazardous waste at their facilities, 58% agreed that because of UNDP project support, they are better able to manage hazardous waste (POPs in particular) at their facilities, and 74% agreed that with the UNDP project support, they are better able to dispose hazardous waste in a safely manner. It is also noted that between 26-42% neither agreed nor disagreed with these statements, this may be attributed to the fact that management and disposal capabilities building are still ongoing at this point of the project cycle (i.e mid-term), and this also supports the argument that more capacity building is still needed.

Figure 11: Beneficiaries’ perceptions on the key elements of capacity building (n=31).



## Reduce COVID impacts

Waste Management is one of the most important sanitary barriers to prevent dissemination of COVID19. In view of the importance of proper waste management to human health and the environment and taking into account risk assessments, the overall continuity of proper municipal waste management services, should be safeguarded in line with proper legislation and best available practices. Preventing disruptions of waste collection is important for ensuring that the infrastructure for residual waste collection and treatment is not overburdened, potentially creating additional health risks.

Waste collection is important to prevent buildup of waste and to keep areas clear of waste to enable the continuity of other vital services. It is important to recognize the role of waste management workers, especially those in waste collection. They should take additional precautions and ensure health and safety procedures to be protected by any potential infection by the waste streams and/or the equipment.

The project identified 10 utility communal companies operating in the most COVID-19 affected areas and ensure cooperation with those companies (5 from Federation of BiH and 5 from RS, and conducted an assessment of existing measures for protection of waste collection workers in those communal companies. Th project also assessed the needs and provide specifications of personal protective equipment for workers collecting household waste in targeted communities as well estimation of current market prices for equipment procurement, and developed recommendations for improvements of safety of waste collection workers and compile localized protocols for treating potentially infectious household waste for waste management companies. In addition to the massive awareness campaign that the project did on managing COVID waste at home.

40% of project beneficiaries who responded to the survey (n=31) indicated that the project strengthened the ability to combat COVID pandemic, however, the majority 60% neither agreed nor disagreed with this statement, this may be due to the fact that there have been so many initiatives helping in addressing COVID impacts and it is probably hard to attribute better ability of combating COVID to one specific project.

Figure 12: Project beneficiaries’ perception on the project support to combat COVID (n=31).

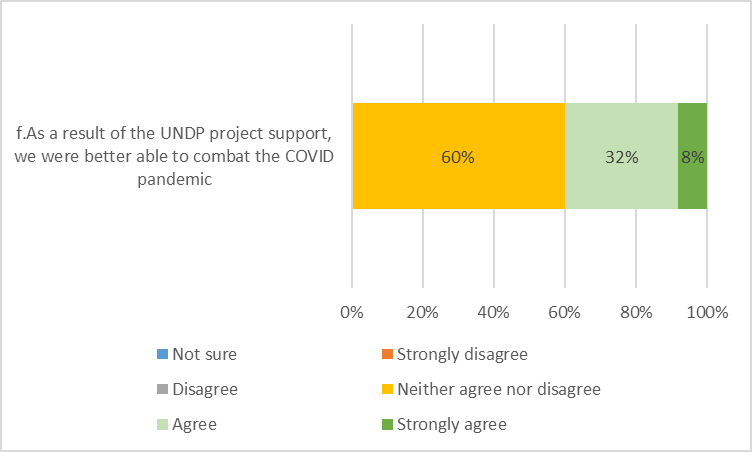


Table : Examples of health system support

|  |
| --- |
| Examples of health system support |
| The Bijeljina Health Care is the primary health care in Bijeljina covering 26 regional family medicine clinics spread around the whole municipality in the circle around 60 - 80 kms, current the centre transports its infectious waste to the central collecting point in Bijeljina Health Centre where it is then transported by contracting company for disinfection. The old vehicle for waste management transport was old and did not meet relevant transportation of infectious waste standards (ADR). During the COVID virus pandemic the quantities of waste were doubled compared to the period before pandemic.  A vehicle for transporting medical or clinical waste was delivered to the Health Centre in December 2020 amid the pandemic. The new vehicle made collecting waste easier and more efficient. The Health Centre also received medical supplies for effective waste management including clinical waste bags, containers, protective masks, gloves and Personal Protective Equipment (PPE) for medical workers handling the infectious waste. |
| Brčko hospital received a waste shredder from the UNDP POPs project as well as supplies for infectious waste management including clinical waste bags, containers, protective masks, gloves and Personal Protective Equipment (PPE) for medical workers handling the infectious waste. All of that helped to keep both workers and users of the hospital safe. The hospital already had a sterilizer that converts infectious waste into municipal solid waste and then the shredder cuts it in slices of all waste such as textile, plastic, sharp objects etc. reducing volume and making it easier for transport. The waste from Infective waste shredder is directly transported into waste containers. It is later removed from the hospital with other municipal solid waste. |
| Bijeljina hospital received a waste sterilizer from the UNDP POPs project as well as supplies and disposables for waste management including clinical waste bags, containers, protective masks, gloves and Personal Protective Equipment (PPE) for medical workers handling the infectious waste.  Now with the additional waste sterilizer, the hospital perform 15 cycles of sterilisation every day on average. Sterilizers convert infectious waste into municipal solid waste that is later removed from the hospital with other municipal solid waste. |

## Efficiency

|  |
| --- |
| Findings and conclusions |
| 1. Despite hiccups on the way (e.g COVID), the project is considered to be on time and on budget towards achieving its targets by the end of the project timeframe, and it has adequate project management arrangement, monitoring and reporting in place. The evaluation notes an opportunity for further promoting the ownership of the project board by further engagement on the financial delivery and transparency. 2. The project’s management has been adaptive and able to demonstrate flexibility in making changes if, and when, necessary to do so in order to keep the project up to date and keep it capable of producing the desired outputs as envisaged originally, this included change on the project scope by adding two additional components to meet emerging needs from the Ozon Depletion Substances (ODS) and COVID response, re-prioritize Incel remediation plan to deal with the emergency situation and the significant health risk after the site has been exposed to fire and re-shaping the project management team to cope with the project demand. |

Efficiency is the extent to which an intervention delivers, or is likely to deliver, results in an economic and timely way. For this, economic is defined as the conversion of inputs (funds, expertise, natural resources, time, etc.) into outputs, outcomes and impacts, in the most cost-effective way possible, as compared to feasible alternatives in the context.[[4]](#footnote-5)

**Finance**: Total spending was in line with committed and allocated funds, by end of Q1 2022, total of project expenditures is $3,211,959 which accounts to 49.1% of the total budget ($6,539,562). The project financial delivery is considered reasonable with almost half of budget spent at a midpoint of the project cycle.

The UNDP is accountable for effective and impartial fiduciary management and financial reporting. It receives donor contributions, disburse funds as per defined activities and consolidate periodic financial reports and final financial report.

The Project has financial controls and a monitoring of expenditures. These not only responding to the UNDP requisites but also catering to donor requirements since UNDP is ultimately responsible for this. Reports on expenditures and results are regularly submitted to donors through project progress reports, however, some members of the project board demanded more engagement in overseeing the budget and transparency on expenditures. Although it is a DIM project, updating the board on expenditures and financial delivery is a recommended transparency practice.

In August 2019, the Minister for Spatial Planning, Civil Engineering and Ecology of RS urged the need for allocating activities and accompanying budget of project component 4 (Management and disposal of PCBs and POPs from abandoned industrial premises) from third and fourth to the first and second project years. The request was made due to problem escalated within ex industrial zone “Incel” located on the outskirts of Banja Luka in BiH.

Project board members approved reallocation of the funds and commencement of these activities at the earliest convenience. Following Sweden’s approval of proposed reallocation as specified in the letter of 6th of August, UNDP amended the budget, made changes in annual work plan and started with the implementation of activities.

There was a deliberate delay on recruiting the Chief Technical Advisor (CTA) position at the beginning of the project as a cost-saving measure, given the technical nature of this particular projects, the evaluators didn’t necessarily see this as an efficient measure, in fact, absence of technical expertise could cost the project more resources than it could have saved.

For further cost efficiency, the Project makes use of existing collaboration with responsible institutions, as usage of their information chemicals related topics reduce additional costs related to this phase of project implementation.

Table 4: Project financial delivery report

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Component | Allocated budget | 2019 | 2020 | 2021 | Q 1 2022 | Spent as of end Q1 of 2022 | Financial delivery % | Balance amount |
| COMPONENT 1  *Capacity building /legislation* | 985,152 | 14,382 | 140,634 | 424,203 | 43,060 | 622,280 | 63% | 362,872 |
| COMPONENT 2 *Prevention U-POPs* | 2,282,819 | 0 | 0 | 641,015 | 9,746 | 650,761 | 29% | 1,632,058 |
| COMPONENT 3  *green chemistry* | 864,000 | 2,369 | 4,320 | 169,283 | 92,992 | 268,964 | 31% | 595,036 |
| COMPONENT 4  *disposal of PCBs* | 747,994 | 49,285 | 296,382 | 167,962 | 3,477 | 517,106 | 69% | 230,888 |
| COMPONENT 5 *Monitoring, learning* | 108,253 | 2,595 | 26,105 | 19,363 | 3,010 | 51,073 | 47% | 57,180 |
| COMPONENT *Project Management* | 550,746 | 22,035 | 68,235 | 83,194 | 20,532 | 193,997 | 35% | 356,749 |
| COMPONENT *Evaluation* | 64,800 | 0 | 0 | 0 | 0 | 0 | 0% | 64,800 |
| COMPONENT 6  ODS | 257,011 | 0 | 95,547 | 133,445 | 0 | 228,992 | 89% | 28,020 |
| COMPONENT 7  *COVID-19* | 678,786 | 0 | 394,783 | 284,004 | 0 | 678,786 | 100% | 0 |
| Total | **6,539,562** | **90,667** | **1,026,006** | **1,922,470** | **172,817** | **3,211,959** | **49%** | **3,327,603** |

**Co-financing:** Ad discussed earlier in this evaluation, the project by design needed to activate the role of co-financing for implementing project activities, particularly for the final disposal of POPs hazardous waste. The co-finance model represents a guarantor from government, polluters and UNDP to pledge enough resources to support project activities and specifically ultimate disposal of the waste. The evaluators believe it is not too late to re-create a co-financing model with mix of incentives and obligations on the polluters, where incentives-based approach could have been considered at the outset to ensure that the project funds do not substitute the polluters’ accountability to pay but but provide additional funding to trigger solutions of final disposal. More details on this provided in the recommendation section.

**Timeliness**: The project officially started on June 1st, 2019, and is due to be complete on June 1st 2024 (i.e 5-year project). Despite COVID exceptional circumstances and subsequent quarantine measures imposed and negative impact, the project seems to be tracking well on time. There are two more years left in the project timeframe at the point of this MTE, and based on the delivery analysis in section 4.3 of this report, it is believed that the project can be completed on time however extension possibilities would be better assessed in 2023. Adaptive management measures were effectively taken during project implementation to avoid further delays or disruptions in project implementation including engaging with stakeholders via the available online platforms (e.g zoom), however, interviewed stakeholders have shown genuine interest to back to more of face to face and interactive engagement with the project.

**Management arrangements and human resources**

The project is implemented following UNDP’s Direct Implementation Modality (DIM), according to the Standard Basic Assistance Agreement between UNDP and the Government of BiH (SBAA of 7 December 1995). The Implementing Partner for this project is UNDP. The UNDP is responsible and accountable for managing this project, including the monitoring and evaluation of project interventions, achieving project outcomes, and for the effective use of UNDP resources. UNDP ensures that all partners and subcontractors will be selected based on open and transparent selection processes, ensuring: i) a clear link between implementation and policy components, ii) cost-effectiveness, iii) the sustainability of capacity building measures.

The Project Board is responsible for making by consensus, management decisions when guidance is required by the Project Manager, including recommendation for UNDP/Implementing Partner approval of project plans and revisions. In order to ensure UNDP’s ultimate accountability, Project Board decisions should be made in accordance with standards that shall ensure management for development results, best value for money, fairness, integrity, transparency and effective international competition. The Project Board is comprised of the following institutions:

1) Ministry of Foreign Trade and Economic Relations of BiH (member);

2) Ministry of Spatial Planning, Construction and Ecology of the government of RS (member);

3) Ministry of Tourism and Environment of the FBiH (member);

4) SWEDEN, Head of development cooperation (member); and

5) UNDP BiH (member/Chair of the Project Board).

The project organization structure is as follows:

Project Manager

(UNDP)

**Project Board**

Ministry of Foreign Trade and Economic Relations of BiH

Ministry of Spatial Planning, Construction and Ecology of the government of RS

Ministry of Tourism and Environment of the FBiH (member); Other State and **Entity Level Ministries**

Project Assurance

UNDP Energy and Environment Sector Leader

Field Officer

(UNDP)

**Project Organisation Structure**

Team

Consultants/ Experts

Chief Project Officer

(UNDP)

UNDP BiH

SWEDEN Head of development cooperation

UNDP Energy and Environment Sector Associate

Project Clerk

(UNDP)

The project management team has witnessed shortage on human resources to enable timely implementation of the project activities, hence the project management team has been re-structured with adequate number of staff. Currently, the project team consists of Project Manager, Chief Project Officer, Field Officer and Project Clark. The Project Manager will run the project on a day-to-day basis on behalf of the Implementing Partner. The project deploys expertise in various fields as the need arises, in accordance to project activities.

**Adaptive management** involves changes made to the project in order to still achieve the outcomes and objective. It is not to be confused with doing something different to that which was set out in the Project Document, but to adapt to emerging challenges and opportunities as project evolves. Adaptive management was used regularly to adapt to a constantly changing environment. The project experienced multiple changes since the beginning, these included change on the project scope by adding two additional components to meet emerging needs from the Ozon Depletion Substances (ODS) and COVID response. Also, the project needed to re-prioritize Incel remediation plan to deal with the emergency situation and the significant health risk after the site has been exposed to fire. Administratively, the project adapted to the needs by re-shaping the project management team, and engaging technical expertise as consultants. It should be noted here that these adaptive measures would not have been achieved without the support from the donor side (i.e SIDA) who demonstrated enough flexibility to accommodate these adaptive measures.

**Monitoring and reporting:** A baseline (quantitative and qualitative indicators) established and documented in the project document, and have been regularly assessed in order to document the progress, and deploy corrective measures as might be applicable in consultation with the Programme Board. A progress report is presented to the Project Board and key stakeholders, consisting of progress data showing the results achieved against pre-defined annual targets at the output level, the annual project quality rating summary, an updated risk long with mitigation measures, and any evaluation or review reports prepared over the period.

## Sustainability

|  |
| --- |
| Findings and conclusions |
| 1. There are number of factors contributing to the sustainability of the project benefits, these include capacity development (training outcomes), new legal frameworks (once endorsed) and POPs reporting procedures, coherent partnerships and effective working groups, Government ownership and the fact that outcomes and outputs are firmly imbedded institutionally and in the strategic NIP plan of BiH. 2. The project is facing sustainability concerns mainly related to 1) Unclear resourcing framework for the long-term disposal of the POPs in environmentally sound manner beyond the project timeframe as this is now clearly becoming impediment that imposes serious risk on achieving final disposal target and meeting the Stockholm convention deadlines for PCBs disposal, 2) Consensus on, and final endorsement of, the newly introduced POPs-related legislation and associated enforcement capacities, 3) continuation of the collection and transportation of the pesticides containers beyond the project timeframe and funding and 4) operationalisation of the remediation after the remediation designs have been completed. 3. The project needs to further promote BiH participating Governments ownership and accountabilities. some of the interviewed stakeholders have expressed valid concerns on the project branding being limited to UNDP and the Swedish Government without inclusion of the logos of the participating Government agencies as key counterparts or indeed ultimate owners of the project products and benefits. |

A project’s sustainability is understood to be the extent to which the net benefits of an intervention continue, or are likely to continue once an intervention has ended. In case of this JP, efforts and consequent results rely on the continued use of the promoted capacities, solutions and application of the support received by the project stakeholders and beneficiaries. 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 below:

**Financial risks to sustainability**: The financial sustainability has to be examined in relation to the POPs-phase out and ultimate disposal. Following the provisions of the Stockholm Convention, all equipment found to contain more than 50 ppm PCB must be identified, labelled and removed from use by 2025. There was a concern related to the costs of inventories determining the level of POPs contamination, including costs of sampling, rapid analysis by screening tests at field sites and eventually confirmation instrumental analysis at the certified national laboratory. The project re-balanced resources to prioritise the inventory, and as a result the project is gathering all the existing data concerning contaminated sites, including previous surveys and the aerial maps, and to carry out interviews and questionnaire surveys, involving the local authorities from the two entities and Brčko District, to collect all the relevant historical information on the situation of the industry in the country. And the PCB has been prioritised among other POPs based on MOFTER request.

However, the phase-out schedule of PCB equipment has not been developed yet, and more importantly the financing strategy is not yet agreed. In the current environment, it is hard to assume that the state and/or entities budget will provide sufficient funding for decommissioning and consolidation of all PCB equipment in time for compliance with the Stockholm Convention deadlines. And there are no project funds allocated for the POPs ultimate disposal to address disposal of the planned quantities of POPs waste, in particular the PCB waste.

As the project is considered by several beneficiaries “a free of charge POPs waste disposal service", involvement of the POPs holders in the project activities was so far mostly reactive and limited to waiting for instructions from the project rather than following a pro-active approach towards optimising the waste disposal work from economical, logistical and ecological perspectives.

And more broadly, it is unclear how the implementation of the Stockholm convention is going to happen after the project in terms of resourcing.

In light of the increase in market prices for services for preparation and transport of POPs waste for ultimate disposal abroad **show considerable risk to the financial sustainability**.

**Socio-economic risks to sustainability**: Commitment to ultimate disposal of PCBs and prevention of negative environmental pollution and adverse health impacts are the main issues for the socio-economic sustainability.

The institutional stakeholders are well aware of the main issues and committed to address them. Due to the project awareness raising activities and ongoing engagement with relevant institutions, there is general awareness of the POPs and their health and environmental impacts in all sectors of the society, including academia and the informal sector. Nonetheless, lot more needs to be done on this aspect especially on empowering the civil society to participate in the POPs management and scrutiny.

The project should continue a proactive approach towards communication with the wider circle of stakeholders. Lack of understanding of environmental and health effects of POPs by the public at large can cause challenges for acceptance the POPs destruction facility in different sites identified by the project.

**Institutional & Governance:** The sustainability of the new legislations is dependent on two elements: 1) official consensus and endorsement by all levels of Government, and 2) develop enforcement capacities. The political environment in BiH is quite challenging and may pose sustainability risk on any project trying to achieve legislative and procedural consistency across different entities including the POPs project. In accordance with the Constitution, BiH comprises two entities: RS and the Federation of Bosnia and Herzegovina (FBiH); and Brcko District as a separate administrative unit as decided by an arbitrary decision made on 5 March 1999 (Annex 2, Article 5 of the Dayton Peace Agreement), whereby it was formed under the exclusive sovereignty of the state. This represents a risk, not only in the development of the prioritized legislation related to the management of chemical substances and hazardous waste that must be approved to ensure sustainability of the project results, but also in the enforcement of the legislation once approved. With this scenario, there could be a delay at the level of formulation and approval of the legislation, which, in turn, would restrict the awareness and socialization processes necessary to promote and promote legislations, with the aim of guaranteeing greater acceptance by the administrations.

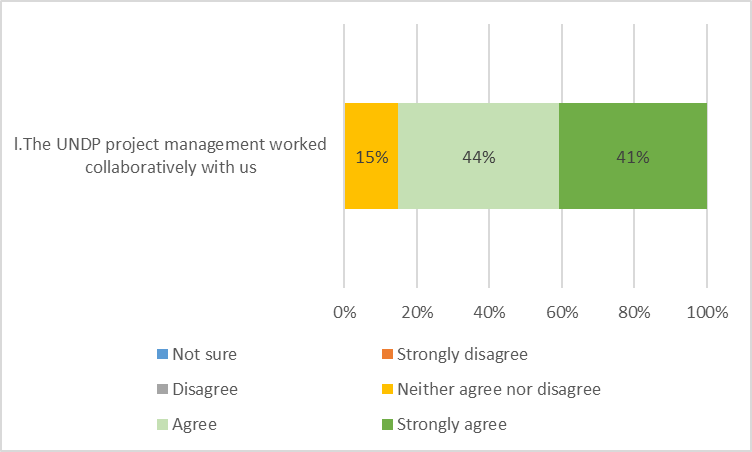
The project exerted significant effort into developing POPs-related legislations at all levels of Governments, but there have been inconsistent views on certain elements of the legislation which poses sustainability risk on these legislations if not approved.

In terms of the enforcement capacities, the project has rightly focused its resources in the first half of the project timeframe on developing the legislations themselves, however it is now the time to shift the thinking towards the enforcement capabilities and assess the enforcement capacities at all levels of Government to ensure to support the control and monitoring of hazardous wastes and chemicals. It is also acknowledged that the project capacity building work with Customs and tax would be contributing to enhance the enforcement needs.

On the other side, the **coherent partnerships** would be important element of the sustainability. The development POPs reporting procedure with the establishment of the working groups, the project seeks to address the need for coordination mechanism comprising respective sectors under the scope of Stockholm Convention. Moreover, the project best endeavors to mainstream POPs related legislation into the harmonization process of the BiH environmental legislation.

85% of the project beneficiaries who responded to the survey (n=31) believed that the project management has been working collaboratively with them.

Figure 13: Beneficiaries survey responses on project management collaboration (n=31).



**Environmental & health**: The greatest environmental risk is that the final disposal of POPs, 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.

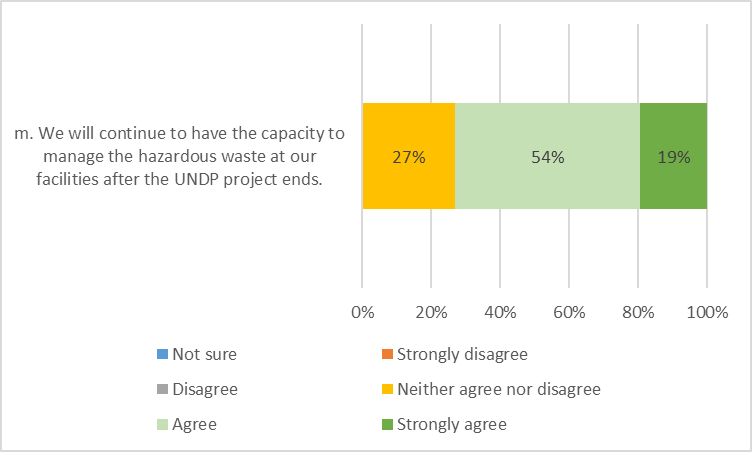
The POPs-related environmental and health risks must be prevented by strengthening the legislation of hazardous waste management, as well as the establishment of a monitoring and control system to safeguard this potential environmental impact factor.

The project supported number of activities aiming at reducing the health risks such as providing PPEs and other tools for the safe management of healthcare waste, training of hazardous waste management, piloting medical waste treatment solutions in hospitals and healthcare centres.

**Capacity building:** The project invested heavily in capacity building, several trainings have already been delivered and large number of people trained in total across all activities. There has been a high degree of investment at both national and local capacity building, not only individual capacity upgrading but also institutional capacity strengthening including setting up database and future reporting mechanisms. This is potentially a contributing factor not only for effectiveness features but also for sustainability.

**Beneficiaries’ perception on sustainability**: Majority of beneficiaries survey respondents (73% n=31) believed that they would continue to have the capacity to manage the hazardous waste at our facilities after the UNDP project ends.

Figure 14 Survey responses of the ability to continue to have the capacity to manage the hazardous waste at our facilities after the UNDP project ends (n=31).



**Scaling Up:** Sound management of chemicals and waste underpins the effective implementation and achievement of the Sustainable Development Goals at the country level. Mainstreaming the sound management of chemicals and waste into the different levels of governments in BiH plans, actions and initiatives is vital. Failing such integration, the complex and interlinked range of hazards and risks of chemicals will continue to cause adverse impacts on the environment, human health, and economic development.

With introduction of the green chemistry principle, the project seeks to minimize the negative impact of chemicals on the environment and help in achieving sustainability in the manufacturing production. Besides the practice of green chemistry that leads to environmental benefits, it creates economic and social benefits. From a financial sustainability perspective, the green chemistry is not only the way to economise by reducing waste and increasing efficiency, but also a method to drive invention and innovation for new products/ initiatives, thus improving competitiveness and leading to a job creation.

Moreover, private sector involvement in the project is envisaged with implementation of the green chemistry principle and the lessons learned and experiences that emerge can be replicated both internationally and BiH wide is partnerships with different organizations/ corporations/ enterprises.

**Branding the project products:** some of the interviewed stakeholders have expressed valid concerns on the project branding being limited to UNDP and the Swedish Government without inclusion of the logos of the participating Government agencies as key counterparts or indeed ultimate owners of the project products and benefits. This raises additional concerns on the broader sense of ownership by participating Government, and the fact the project should be administered and delivered with promoting greater ownership and accountability of BiH participating Governments at all levels.

|  |  |
| --- | --- |
| Branding examples |  |
|  |  |

# **Recommendations**

Based on the findings, and in line with some of the lessons learned outlined, this sub-section proposes some recommendations for actions aiming at improving the project delivery.

1. **Develop, negotiate and obtain agreement on a financing model for the POPs disposal stage beyond project targets:** As noted earlier in this report, the project by design lack for specific/agreed funding model for the disposal stage, and the project managed to achieve savings of $300K to fund the project disposal target. However there are no financing modality committed to disposing the rest of quantities beyond the project target, and this imposes serious risk on achieving final disposal target and meeting the Stockholm convention deadlines for PCBs disposal.

The project needs to develop, negotiate and agree on appropriate financing model for funding the disposal of the POPs and POPs-contaminated equipment. The new funding model should represent a guarantor from government, polluters and UNDP to pledge enough resources to support project activities and specifically ultimate disposal of the waste.

It is recommended that the model involves mix of incentives and obligations on the polluters, where incentives-based approach could be considered at the outset to ensure that the project and Government funds do not substitute the polluters’ accountability to pay but provide additional funding to trigger solutions of final disposal. **(***related to finding#13– sustainability***)**

1. **Promote the “Polluter Pays” principle:** The Polluter Pays Principle is one of the key principles underlying the European Union’s (EU) environmental policy. Application of the principle means that polluters bear the costs of their pollution including the cost of measures taken to prevent, control and remedy pollution and the costs it imposes on society. By applying the principle, polluters are incentivized to avoid environmental damage and are held responsible for the pollution that they cause. It is also the polluter, and not the taxpayer, who covers the cost of remediation.

Promoting this principle could be achieved by 1) integrating the Polluter Pays Principle into new legislation (which will also achieve alignment with EU policies), 2) direct engagement with the polluters to confirm their accountability, and 3) investigate incentives for polluters to engage such as third-party funding (potentially GEF), tax exemption. **(***relevant to all findings, particularly sustainability aspect of the future disposal arrangements***)**

1. **Develop a phase-out schedule of PCB contaminated equipment** to create considerable pressure on budgets of the equipment owners as decommissioning will require replacement by non-PCB equipment and costs of the final disposal to be able to meet the Stockholm convention deadline for PCB disposal (i.e 2025). Also, it is recommended to strengthen communication around the Stockholm Convention 2025 and 2028 deadlines for PCB phase-out and disposal to keep all stakeholder reminded of these critical obligations. (*relevant to Impascts and sustainability findings # 7 and 13*)
2. **Assess authorities’ enforcement capacities of new legislations and develop a capacity building plan specifically addressing enforcement capabilities** The project has rightly focused its resources in the first half of the project timeframe on developing the legislations themselves, however it is now the time to shift the thinking towards the enforcement capabilities and assess the enforcement capacities at all levels of Government to ensure to support the control and monitoring of hazardous wastes and chemicals. It is also acknowledged that the project capacity building work with Customs and tax would be contributing to enhance the enforcement needs. (*relevant to finding #6 - effectiveness*)**.**
3. **Strengthen the project board’s role and ownership** by further engagement on decision making and oversight on the financial delivery and transparency, reassuring and clarifying the significance of the board, standardize inclusive branding policy for the project products to include all participating Government, including re-branding, where possible, the existing project publications to include the logo of the participating Governments – especially the online virtual POPs platform. **(***related to finding #14 – sustainability***).**
4. **Strengthen the linkages among policy making institutions and academic institutions** through defining priority policy-oriented research needs and establishing sustainable collaborations mechanisms with research institutions - subject to funding availability. (*relevant to finding #7 - effectiveness*)**.**
5. **Develop and agree on post-project modality for continuation of the containers management scheme.** This can be achieved by 1) extend the containers disposal pilot to the end of the project timeframe, 2) continue consultation through the WCMS strategy with retailers, farmers, importers, local authorities and other stakeholder to establish a sustainable disposal process. **(***related to finding #134 – sustainability***).**
6. **Investigate legislation review needs to enable the operationalisation of the remediation process** based on the project remediation design. The review of relevant legislation should be also accompanied with the onwers/manager of targeted sites to enable smooth implementation including system of incentives for remediations. **(***related to finding #13 – sustainability***).**
7. **Empower the civil society sector to play a role in POPs management**, this involves identifying relevant environmental NGOs and engaging them in project activities that empower them to play a proper watchdog role. (General recommendation related to all findings).
8. **Update the social and environmental screening to recognize the health and safety risk** of handling the POPs by project contractors and set health and safety mitigation measures, and to ensure close attention to the work of sub-contractors and careful selection of partners with due diligence **(***related to finding #3 – coherence***)**.
9. **Further investment in increasing visibility of the project activities** in the formal media and social media platforms. Specific workshops to engage with media and educate them on reporting POPs-related matters. **(***a general recommendation relevant to all findings to further increase awareness)*
10. With COVID restrictions started to relax, **increase face to face engagement with stakeholders**, specifically contractors to interact directly in the field with stakeholders to collect more accurate data. (*a general recommendation based on the stakeholders recommendations).)*
11. **Coordinate with the new GEF project** that aims at updating the NIP, specifically the work on the POPs inventory would be of a common interest, and investigate opportunities for complementarities. The new GEF project could be the new platform to drive some strategic discussions around the sustainability of this project benefits including future financing of the POPs disposal. (*a general recommendation relevant to all findings)*
12. **Initiate the workstream to support local laboratories to establish local sampling and analysis capacities**. This should involve conducting a desktop review of laboratories in BiH competent and interested in sampling and analyses of POPs to undergo trainings, and consulted with the relevant working groups whether there are laboratories in BiH that perform sampling and analyses of POPs. (*relevant to effectiveness findings)*

# **Lessons learned**

1. **Adaptive management approach coupled with flexibility can be the solution:** The project experienced multiple changes since the beginning including adding two additional components, re-prioritizing activities (in relation to Incel remediation plan), and re-shaping the project management team. The project’s management has been adaptive and able to demonstrate flexibility in making changes if, and when, necessary to do so in order to keep the project up to date and keep it capable of producing the desired outputs as envisaged originally. This kind of quick and immediate change to the scope of work required high degree of flexibility from all involved parties including from the funding agency (i.e the Government of Sweden).
2. **Sustainability of project outputs and benefits starts from the design stage:** This evaluation discusses number of sustainability issues, and the evaluation demonstrate how instrumental sustainability can be towards achieving the broader gaols of a project. Indeed, we cannot afford waiting until after activities are implemented to consider sustainability, it is important to learn that planning for a sustainable outcome starts from the early beginning of the design stage of a project. A good project design that answers the question of “what next?” and “so what?”. Response to these questions will shape a good understanding of sustainability strategy.
3. **Realistic targets:** During the formulation of a project particular attention should be paid to realistic estimation of quantitative targets for outcome indicators. Unrealistic targets indicate that the logical framework of the project was planned in a way too optimistic.

# Appendixes

# Appendix 1: Evaluation Terms of Reference (TOR)

|  |  |
| --- | --- |
| **International Consultant for Mid-Term Project Evaluation** | |
| **Location :** | BOSNIA AND HERZEGOVINA |
| **Application Deadline :** | 07-Apr-22 **(Midnight New York, USA)** |
| **Type of Contract :** | Individual Contract |
| **Post Level :** | International Consultant |
| **Languages Required :** | English |
| **Duration of Initial Contract :** | April 2022- June 2022 (up to 30 workdays) |
| **UNDP is committed to achieving workforce diversity in terms of gender, nationality and culture. Individuals from minority groups, indigenous groups and persons with disabilities are equally encouraged to apply. All applications will be treated with the strictest confidence.  UNDP does not tolerate sexual exploitation and abuse, any kind of harassment, including sexual harassment, and discrimination. All selected candidates will, therefore, undergo rigorous reference and background checks.** | |

|  |
| --- |
| **Background** |
| Bosnia and Herzegovina (BiH) is a sovereign state with a decentralized political and administrative structure. The Constitution of BiH, an Annex to the General Framework Agreement for Peace in BiH (Dayton Peace Accords, 1995) confirmed the continuation of the legal existence of BiH as a country, while its internal structure was changed. In accordance with the Constitution, BiH comprises two entities: Republika Srpska (RS) and the Federation of Bosnia and Herzegovina (FBiH); and Brcko District as a separate administrative unit as decided by an arbitrary decision made on 5 March 1999 (Annex 2, Article 5 of the Dayton Peace Agreement), whereby it was formed under the exclusive sovereignty of the state.  The central government at the level of BiH received limited powers in accordance with the Dayton Peace Accords (1995), as all governmental functions and authorities that are not expressly assigned to the institutions of BiH in the Constitution, are those of entities.  FBiH is sub-divided into 10 Cantons with 79 local governments (municipalities and cities). While the RS administrative structure includes 64 municipalities and cities, more specifically – 57 municipalities and 7 cities. Municipalities and cities with local self-governance are the lowest level of the political and territorial structure of BiH.  When it comes to environmental authorities, the Ministry of Foreign Trade and Economic Relations of BiH (MoFTER) is tasked with defining policies, basic principles, coordinating activities and harmonizing plans of the entity authorities and institutions at the international level.  In FBiH, the Ministry of Environment and Tourism oversees strategy and policy of environment protection including air protection, water and soil conservation, waste management, and environmental standards. The Ministry of Spatial Planning and the Ministry of Agriculture, Water Management and Forestry have respective environmental competences.  In RS, the Ministry for Spatial Planning, Civil Engineering and Ecology is tasked with environmental protection (land, air and water) and waste management. The Ministry of Agriculture, Forestry and Water Management addresses related strategies, policies, standards and regulations.  BiH ratified the Stockholm Convention on 30 May 2010 and committed to meeting the requirements of the Convention, with the main objective to take measures for the elimination or restriction or prevention of the production, import, export and use of all manufactured POPs and the continuous reduction to minimize the occurrence of these pollutants in the environment, and the elimination of emissions of unintentionally produced POPs. These substances pose a global threat to the environment and human health due to their long persistence in the environment, their long term and cumulative toxic properties, and their capacity to bioaccumulate in living organisms, so the overall objective of the Project is to reduce risk for people’s health and the environment.  UNDP’s Environmentally Sound Management of Persistent Organic Pollutants (POPs) in industrial and hazardous waste sectors (POPs Project) intends to prevent the release of POPs in the environment through the implementation of green chemistry initiatives in the industry and agriculture along with destruction of identified POPs waste stockpiles.  **About the Project**   |  |  | | --- | --- | | **Project title** | Environmentally Sound Management of Persistent Organic Pollutants (POPs) in industrial and hazardous waste sectors | | **Atlas ID** | 00118429 | | **Corporate outcome and output** | 00115254 and 00121745 | | **Country** | Bosnia and Herzegovina | | **Date Project document signed** | 01/06/2019 | | **Project End date** | 01/06/2024 | | **Project budget** | USD 6,539,562.17 | | **Project expenditure at the time of evaluation** | **3,145,519.11 USD**  2,371,453.16 USD  - Output ID 0011525; Donor 00555  95,279.51 USD - Output ID 0011525; Donor 00067  678,786.44, USD - Output ID 0012174; Donor 00555 | | **Funding source** | Government of Sweden, Fund ID 30000  Fund for Environment Protection and Energy Efficiency of RS,  Fund ID 30071 | | **Implementing party** | **UNDP** |   The five-year Project “[Environmentally Sound Management of Persistent Organic Pollutants (POPs) in Industrial and Hazardous Waste Sectors](https://open.undp.org/projects/00118429)” (POPs Project) is financed by the Government of Sweden and implemented by UNDP.  The Project’s budget amounts to USD 6,539,562.17 including co-funding from the Fund for Environment Protection and Energy Efficiency of RS.  The main goal of the Project is to support elimination and reduction of releases of persistent organic pollutants (hereinafter POPs) into the environment, which is in line with requirements of the Stockholm Convention (hereinafter the Convention). BiH signed the Convention in 2001 and ratified it in 2010. By doing so, the country obliged to fulfil the requirements of the Convention which, *inter alia*, include avoidance of the use of hazardous POPs, shifting towards safer alternatives and removal of old supplies and equipment that contain these substances. The Convention lists 28 POPs in total, whereas five POPs had been added after the Seventh [Conference of the Parties](https://unfccc.int/process/bodies/supreme-bodies/conference-of-the-parties-cop) held in 2017.  The Project has the following components:   * **Component 1**: Capacity Building and mainstreaming of POPs related legislation into the process of harmonization of the BIH environmental legislation, * **Component 2**: Prevention and monitoring of Unintentional POPs (U-POPs) generation and of release of POPs through minimization, segregation, and environmentally sound management of selected hazardous waste, * **Component 3:** Implementation of green chemistry principles in plastic manufacturing to prevent the use of and release of new POPs including the candidate deca Polybrominated diphenyl ethers (PDBE) and Short-chain chlorinated paraffins (SCCP), * **Component 4**: Management and disposal of PCBs and POPs from abandoned industrial premises, * **Component 5**: Monitoring, Learning, adaptive feedback, outreach and evaluation, * **Component 6**: Development of the inventory of cooling equipment which create ozone depleting substances -ODS), and * **Component 7:** Responsible management of potentially infectious waste in relation to the COVID-19 public health crisis[[1]](https://undp.sharepoint.com/teams/BIH/TOR/02158-International%20Consultant%20for%20Mid-Term%20Project%20Evaluation.docx#_ftn1) .   **The Outcomes of the Project are:**   * Outcome 1.1 POPs related legislation mainstreamed into the process of inter-institutional and EU harmonization of the BIH environmental legislation and POPs inventory/registry developed * Outcome 2.1. Around 2 Grams of the toxic equivalent I-TEQ per year (g TEq) of Dioxins (PCDD/F) release avoided through the establishment of capacity for the proper segregation and management of waste generating U-POPs. * Outcome 2.2 Capacity for monitoring of POPs and U-POPs in the environment and at the originating sources established. * Outcome 2.3. Prevention of illegal import or marketing of chemicals of goods containing or contaminated by POP substances. * Outcome 3.1 Green chemistry principles adopted in the emerging plastic manufacturing sector with the avoidance of the use of at least 10 tons of PBDE, deca PBDE and short chain chlorinated paraffins. * Outcome 4.1 Risk assessment conducted, and remediation designs developed for at least two contaminated sites. * Outcome 5.1 Project results monitored, adaptive management applied, lessons-learned, experiences, and best practices extracted and disseminated at BiH wide and regional level. * Outcome 6.1. Emissions of ozone depleting substances (ODSs) avoided through the establishment of capacity for proper segregation and management of appliances and equipment containing ODSs. * Outcome 7.1 Authorities are supported to provide inclusive and multi-sectoral crisis management and response to COVID-19, particularly regarding medical waste management.   **The Outputs of the Project are:**   * Output 1.1.1 Coordination structure for the implementation of the convention (horizontal and vertical) established to ensure that POPs related legislation is mainstreamed into the process of inter-institutional and EU harmonization of the BIH’s environmental legislation. * Output 1.1.2. Stockholm Convention mainstreamed in the environmental legislation of the BiH decision 2 entities and Brcko district. POPs related decrees drafted and approved. * Output 1.1.3 Training on the integration of the Stockholm Convention with the EU and BiH wide legislation on chemical and waste for environmental decision makers carried out. * Output 1.1.4 A database on POPs, containing also information on new POPs not fully addressed in the NIP is developed and made available to stakeholders and listed in database.  At least three major abandoned industrial sites inspected and included in Inventory on POPs. * Output 1.1.5 At least 50 tons of POPs containing waste or equipment disposed of. * Output 2.1.1 Two (2) g/TeQ of PCDD/F releases avoided through the implementation of environmentally sound management of plastic waste contaminated by pesticides. * Output 2.2.1 At least one laboratory trained on the sampling and analysis of POPs and U-POPs in the environment and at the stack of industrial sources. * Output 2.3.1 Development of a manual for the Customs for the prevention of illegal import of POPs chemicals or POPs containing mixtures or goods. * Output 3.1.1 Training on green chemistry in plastic manufacturing carried out for at least 50 participants * Output 3.1.2 Non-POP alternative to flame retardants introduced in plastic manufacturing with the replacement of at least 5 t of C-PBDE and at least 5 t of SCCP yearly. * Output 3.1.3 Development of incentive mechanisms to ensure sustainability and replicability of GC initiative in the manufacturing industry. * Output 4.1.1. Risk assessment conducted, and remediation designs developed for at least 2 POPs contaminated sites. * Output 5.1.1 Adaptive management applied, lessons-learned, best practices and experiences collected and disseminated at BiH wide and regional level to support replication. * Output 6.1.1 Emissions of ODSs prevented and management of ODSs improved. * Output 7.1.1: Households with COVID-19 positive members or those in self-isolation dispose of their waste responsibly and safely, while the general population is aware of the responsible behavior in terms of waste disposal during the public health crisis. * Output 7.1.2:  Current medical waste management practices and facilities in health care institutions in the most COVID-19 affected areas are rapidly assessed and capacitated to accommodate the newly generated waste, as well as prepare the system for events of similar nature in the future. * Output 7.1.3:  Public utilities for waste management are capable to effectively and safely provide waste services in the public health crisis.   *Detailed outline of the Programme Result Framework is available in*[*Annex 1*](https://undp.sharepoint.com/:u:/r/teams/BIH/Procurement%20Files/Annexes.zip?csf=1&web=1&e=guKR1y)  **Partnerships:**  The Project is implemented in partnership and collaboration with respective partner institutions from the Government: Ministry of Foreign Trade and Economic Relations of BiH (MoFTER); Ministry for Spatial Planning, Construction and Ecology of RS, Ministry of Environment and Tourism of the FBiH, Environment Protection in the Department for Spatial Planning and Property Affairs in Brcko District, Environmental Fund of the FBiH, and Environmental Protection and Energy Efficiency Fund of RS.  *Overview of key stakeholders and partners and their roles in evaluation is provided in*[*Annex 2*](https://undp.sharepoint.com/:u:/r/teams/BIH/Procurement%20Files/Annexes.zip?csf=1&web=1&e=guKR1y)*.*  **Target groups and beneficiaries:**  In addition to government institutions and civil servants, the beneficiaries of the Project are in both the public and private sectors, including the general public, vulnerable groups, workers, educators, NGOs. Target groups also include business entities and medium-sized enterprises in BiH dealing with waste management, export of hazardous waste and manufacturers of equipment that contains POPs.  **Main achievements:**   * Gap Analysis of Institutional and Legal Readiness to implement the Stockholm Convention in BiH, * Project/Design of remediation and recultivation for one contaminated site in BiH, * Procurement of most urgent equipment needed for proper and safe infectious waste management, * Feasibility Study on Implementation of Container Management System in BiH,, * Detailed Inventory of persistent organic pollutants (POPs) in BiH, * Manual on POPs detection for customs officers.   **Covid 19 context:**  Starting from March 2020, the Project’s implementation was to some point negatively affected by the global outbreak of the COVID-19 pandemic. The COVID-19 imposed lockdown resulted in a temporary halt of the activities in the field, which caused delays in timely completion of some of the activities.  On the other side, the additional Project Component - Responsible management of potentially infectious waste in relation to the COVID-19 public health crisis, was approved and became operational as of mid-June 2020 due to sudden and emergency nature of crisis caused by COVID -19.  The intervention aimed to support authorities to offer an effective response to the mismanagement of medical waste in BiH, including potentially infectious one, during and immediately after the 2020 COVID-19 outbreak.  The activities had been focused to: household waste that originated from infected or potentially infected persons as well as household waste from single-use masks and gloves disposal, and medical waste generated in medical care facilities during the public health crisis. The intervention targeted leverage points in the entire “life cycle” of above listed waste categories starting from: (a) addressing the two main sources of its generation including  households (and individuals) and medical care facilities, further to (b) its collection and disposal by waste management public utilities and other waste management operators; and ultimately to (c) improving the overall capacities for coordination among actors in charge of the medical waste management system to better respond to the rising amounts of medical waste during crisis. The intervention concluded in 2021.  **Project alignment and relevance:**  The Project is in line with the requirements set by international agreements signed and ratified by BiH. Other than the Stockholm Convention, both the Rotterdam Convention on the prior notification procedure with approvals for trade of specific dangerous chemicals and pesticides in international trade, Basel Convention on the control of transboundary movements of hazardous wastes and their disposal and the Convention on Long-Range Transboundary Air Pollution (CLRTAP) and respective Protocol on Long Term Financing of the Co-operative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe (EMEP), are relevant[[2]](https://undp.sharepoint.com/teams/BIH/TOR/02158-International%20Consultant%20for%20Mid-Term%20Project%20Evaluation.docx" \l "_ftn2).  The implementation of Project’s activities also contributes to BiH’s implementation of the following Sustainable Development Goals:   * **SDG 12 Responsible Consumption and production**, Target 12.4 and Target 12.8 * **SDG 3 Good health and well-being**Target 3.9 * **SDG 12**  **Responsible Consumption and production,**Target 12.4 and Target 12.8 * **SDG 17 Partnerships for the Goals,**Target 17.7 and Target 17.9   **Evaluation purpose, objectives and scope**  **Purpose**  The main purpose of this Mid-term Evaluation (MTE) is to assess progress towards the achievement of the Project’s outputs/outcomes (as per the Project result framework) and identify potential challenges in Project implementation so far.  It will assess intermediate signs of Project success or failure with an aim of recommending eventual course corrections in the second half of the Project lifetime and, if necessary, set the Project on-track in order to increase the probability for achieving its intended results by the end of its duration. The MTE will also review the Project’s implementation strategy, and its risks to sustainability. The MTE will assess the relevance, coherence, efficiency, effectiveness, sustainability and impact of the Project, and provide strategic recommendations for future decision-making in the sectors covered by the Stockholm Conventions, for institutional partners, UNDP, Government of Sweden and other relevant stakeholders.  [[1]](https://undp.sharepoint.com/teams/BIH/TOR/02158-International%20Consultant%20for%20Mid-Term%20Project%20Evaluation.docx#_ftnref1) This Component was completed in 2021.  [[2]](https://undp.sharepoint.com/teams/BIH/TOR/02158-International%20Consultant%20for%20Mid-Term%20Project%20Evaluation.docx" \l "_ftnref2) The following conventions and protocols also bear relevance: Convention for the Protection of the Ozone Layer Vienna (1993), Protocol to the Vienna Convention on Substances that Deplete the Ozone Layer Montreal (1993); and Aarhus Protocol to CLRTAP on Persistent Organic Pollutants (POPs) and the Minamata Convention on Mercury. |
| **Duties and Responsibilities** |
| The MTE will focus on assessing the overall performance of the Project and its results generated from the beginning to the mid-point of the Project implementation, based on the scope and criteria set forth in this term of reference.  In a substantive review of the effectiveness of the Project approach, the MTE should assess cause and effect relations within the Project, identifying the extent to which the observed changes can be attributed to its interventions. The selected Evaluation Team will take a broad overview of the Project area by gathering perceptions, aspirations, feedback and data from relevant partners, stakeholders and beneficiaries for objective analysis and conduct of the evaluation.  Finally, this MTE’s objective is to provide forward-looking recommendations to the Government of Sweden and UNDP on the sustainability of the Project results and its scaling up potentials.  **Scope**  The evaluation will assess the extent to which the planned Project outcomes and outputs have been achieved since the beginning of the Project in June 2019 and likelihood for their full achievement by the end of the Project in June 2024 (based on the Project Document and its results framework).  The MTE will look into the Project’s processes and activities, strategic partnerships and linkages in the specific country’s context that proved critical in producing the intended outputs and the factors that facilitated and/or hindered the progress in achieving the outputs, both in terms of the external environment and risks, crisis caused by the pandemic, as well as internal, including weaknesses in programme design, management and implementation, human resource skills, and resources.  The evaluation will also assess the cross-cutting aspects of the Project, such as gender equality and human rights and innovativeness in result areas.  To the extent possible, the MTE will also consider the results of the Project’s contribution to address the effects of the COVID-19 pandemic.  **I.Evaluation criteria and key questions**  The MTE of **the POPs Project**will address the following questions, so as to determine the Project’s relevance, coherence, effectiveness, efficiency, impact and sustainability, including lessons learned and forward-looking recommendations:  **Relevance and coherence**   * Are the Project’s objectives relevant to the needs and priorities of the country and beneficiaries, having in mind political, social, legal and institutional context of the country, effective national policies and strategies? * Have any changes been made to the Project’s design during the implementation? If yes, did they lead to significant design improvements? Were adequate steps taken by the Project to adjust its implementation strategy to the new circumstances and needs imposed by COVID-19 pandemic relevant? * Are coordination, management and financing arrangements clearly defined and did they support institutional strengthening and local ownership? * To what extent were human rights, gender equality and social inclusion mainstreamed within the Project? Has this mainstreaming been relevant to the needs of socially excluded groups and both women and men? * To what extent has the Project been successful in ensuring complementarity, harmonisation and coordination with other relevant interventions of the governments in BiH and other donors, avoiding duplication of efforts and adding value?   **Effectiveness**   * To what extent have the intended results been achieved? What are the main Project’s accomplishments? Overview of the Project’s progress against the result framework indicators is to be provided in an Annex of the Evaluation Report. * Briefly explain the reasons behind the success (or failure) of the Project in producing its different outputs and meeting expected quality standards? Were key stakeholders appropriately involved in producing the programmed outputs? * To what extent has the Project supported effective capacity building for monitoring, management and disposal of POPs, including harmonization of relevant legislation? * What good practices or successful experiences or transferable and innovative examples have been identified? Are there any course correction measures to be undertaken by the end of the project? * To what extend has the Project outreached marginalized groups (i.e. youth, persons with disabilities, returnees, internally displaced, minorities…)? Have the interventions been implemented in accordance with a civic and human rights perspective: i.e. have target groups been participating in planning, implementation and follow up? Has anyone been discriminated by the Projects through the implementation? Have the Projects been implemented in a transparent fashion? What accountability mechanisms have been applied in the Projects?   **Efficiency**   * Have resources (financial, human, technical) been allocated strategically and economically to achieve the Project’s results? * Has co-funding provided by additional donors ensured complementarity with the overall Project intervention? Were the Project’s activities implemented as scheduled and with the planned financial resources? Is the relationship between Project’s inputs and results achieved appropriate and justifiable? * To what extent did the Project engage or coordinate with different beneficiaries (men and women), implementing partners and national counterparts to achieve outcome-level results?  To what extent were the Project coordination approaches conducive to the delivery of the Project outputs? * Has the communication and outreach of the Project been satisfactory? * Did the Project have a sound M&E plan to monitor results and track progress towards achieving Project objectives?   **Impact**   * What is the Project impact in qualitative as well as quantitative terms from a broader development and system building perspective? What would the development have been like without the Project’s interventions in the area of concern? * What are the positive or negative, intended or unintended, changes brought about by the Project’s interventions? * To what extent the Project’s intervention may have led to adaptive change and paradigm shift towards resilient development pathways?   **Sustainability**   * To what extent are the achieved outputs sustainable? Will the outputs lead to benefits beyond the lifespan of the Project? * To what extent has the Project contributed to sustainability of its achievements, by supporting nationally-owned strategic plans, legislative agendas and policies? * To what extent do national partners have the institutional capacities, including sustainability strategies, in place to sustain the Project results?  Are policy and regulatory frameworks in place to support the continuation of benefits for institutional beneficiaries and people in the future? * Is the Project financially catalytic? To what extent have partners committed to providing continuing support? * To what extent do partnerships exist with other national institutions, NGOs, United Nations agencies, the private sector and other development partners to sustain the attained results? * What are the innovations/ best practices generated by the Project, that need to be further built upon? * To what extent has the integration of human rights and gender led to an increase in the likelihood of sustainability of Project results? * Does Project have well-planned exit strategies?   **Human Rights and Gender Equality**   * To what extent have the Project interventions been inclusive in supporting the most vulnerable and marginalized group in the implementing area? * To what extent have gender equality and the empowerment of women been mainstreamed in the Project design and implementation? Has the Project had any positive or negative effects on gender equality? * Could gender mainstreaming have been improved in planning, implementation or follow up?   **Future-looking concept and recommendations**  It is critical for the evaluation to balance its contribution to collective learning, with greater focus on adaptive management and systemic change, accountability over the use of public resources, considering the strategic context and the authorizing environment. With that view, in the forward-looking recommendations, the MTE will also consider:   * Have any good practices, success stories, lessons learned, or transferable examples been identified, that would eventually suggest any course correction in the future implementation? * The evaluation needs to assess the degree to which the Project supported or promoted gender equality, a rights-based approach, and human development. In this regard, [United Nations Evaluation Group’s guidance on Integrating Human Rights and Gender Equality in Evaluation should be consulted.](file:///C:\Users\azorlak\Desktop\The%20evaluation%20need%20to%20assess%20the%20degree%20to%20which%20UNDP%20initiatives%20have%20supported%20or%20promoted%20gender%20equality,%20a%20rights-based%20approach,%20and%20human%20development.%20In%20this%20regard,%20United%20Nations%20Evaluation%20Group%E2%80%99s%20guidance%20on%20Integrating%20Human%20Rights%20and%20Gender%20Equality%20in%20Evaluation%20should%20be%20consulted.)   **II.Methodology**  Based on the [UNDP Evaluation Guidelines](http://web.undp.org/evaluation/guideline/covid19.shtml) and [UNEG Norms and Stand for Evaluations](http://www.unevaluation.org/document/detail/1914) and in consultations with the UNDP, the Evaluation will be participatory, involving relevant stakeholders.  The Evaluation will be conducted by the Evaluation team composed of an International Evaluation Consultant (Evaluation Team Leader) and National Evaluation Consultant. The Evaluation Team Leader will lead the evaluation process and decide on planning and distribution of the evaluation workload and tasks. She/he will closely collaborate with the National Evaluation Consultant who will provide support throughout the evaluation process  The Evaluation Team Leader twill propose an **adjusted evaluative methodology that may be needed to implement the evaluation effectively in the COVID – 19 pandemics circumstances, applying safety guidance and remote data collecting methods such as extended desk reviews, virtual stakeholder meetings and interviews by Evaluators**[**[1]**](https://undp.sharepoint.com/teams/BIH/TOR/02158-International%20Consultant%20for%20Mid-Term%20Project%20Evaluation.docx#_ftn1)**.**A detailed plan for the Evaluation process will be proposed by the Evaluation Team Leader and agreed as a part of the Evaluation Inception Report.  The proposed methodology should employ innovating participatory approaches, relevant quantitative, qualitative or combined methods to conduct the Evaluation, based on diverse ecosystem of evidence, using gender sensitive data collection and analytical methods and tools applicable in the concrete case. The Evaluation team is expected to combine the standard and other evaluation tools and techniques to ensure maximum reliability of data and validity of the evaluation findings.  These methods and approaches need to generate feedback loops and insights for transformational change. Stakeholder participation is an important source of data which can mitigate observational biases. The Evaluation recommendations will be forward looking and focused on adaptation in the changing system addressed by the project intervention.  Limitations to the chosen approach/methodology and methods shall be made explicit by the Evaluation team and the consequences of these limitations discussed in the proposed methodology. The Evaluation Team Leader shall, to the extent possible, present mitigation measures to address these limitations.  The Evaluation Team Leaderis expected to carry out the evaluation process with careful consideration of these Terms of References. In cases where sensitive or confidential issues are to be addressed in the evaluation, the Evaluation Team Leader should ensure an evaluation design that do not put informants and stakeholders at risk during the data collection phase or the dissemination phase.  Standard UNDP evaluation methodology would suggest the following data collecting methods:   * Desk review: The Evaluation Team Leader will conduct a detailed review of the Project materials and deliverables including but not limited to the Project Document and Addendums, theory of change and results framework, monitoring and Project quality assurance reports, annual workplans, consolidated progress reports etc. *An extensive list of documents for desk review is provided in*[*Annex 3*](https://undp.sharepoint.com/:u:/r/teams/BIH/Procurement%20Files/Annexes.zip?csf=1&web=1&e=guKR1y)*.* * Key informant interviews: Using virtual technological solutions, the Evaluation Team Leader will remotely interview representatives of UNDP MoFTER; Ministry for Spatial Planning, Construction and Ecology of RS, Ministry of Environment and Tourism of the FBiH, Environment Protection in the Department for Spatial Planning and Property Affairs Brcko, Environmental Fund of the FBiH, and Environmental Protection and Energy Efficiency Fund of RS*etc*.  Detailed list of main stakeholders that may be considered for meetings is provided in [Annex 2](https://undp.sharepoint.com/:u:/r/teams/BIH/Procurement%20Files/Annexes.zip?csf=1&web=1&e=guKR1y). * Other methodologies, as appropriate, such as case studies, statistical analysis, social network analysis, etc. online interviews, mobile questionnaires, online surveys, and collaboration platforms (slack or yammer) are recommended to be used to gather data. Stakeholders that are dealing with existing emergencies should be given advance notice.   As an integral part of the evaluation report and specifically under the impact criteria, the Evaluation Team Leader will review the Project’s effects and impact on the target groups. In this context and using the online tools, the consultancy is expected to gain insights from both the partners and the beneficiaries.  The expected duration of the assignment is up to 30 workdays in the period April – June 2022.  **III.Evaluation tasks / deliverables**  Following the initial briefing and a detailed desk review, the Evaluation Team Leader will be responsible for delivering the following products and tasks:   * **Inception Report**(10-15 pages) will be presented before the evaluation starts, showing how each evaluation question will be answered by proposing methods, sources of data and data collection procedures. The Inception Report should elaborate an **evaluation matrix** (*provided in*[*Annex 4*](https://undp.sharepoint.com/:u:/r/teams/BIH/Procurement%20Files/Annexes.zip?csf=1&web=1&e=guKR1y)) for the Project and propose a schedule of tasks, activities and evaluation deliverables. The Evaluation Inception Report should follow the structure proposed in the [UNDP Evaluation Guidelines, p. 27](http://web.undp.org/evaluation/guideline/documents/PDF/UNDP_Evaluation_Guidelines.pdf) * **Evaluation and data collection:** Upon the approval of the Inception Report and the evaluation work plan by the UN team, the Evaluation Team Leader is expected to carry out the evaluation. **Data collecting methodology presented in the Evaluation Inception Report should limit the exposure of any consultant, Project team member, beneficiary or stakeholder to the pandemic,**therefore, strongly recommended is use of remote and virtual methodologies. * **Draft Evaluation Report:** Based on the findings generated through desk review and data collection process, the Evaluation Team Leader will prepare and submit the Draft Evaluation Report to the UN team and key stakeholders for review. **The Evaluation findings, lessons learned and forward-looking recommendations will be separately presented in distinct sections of the Evaluation Report**. *Structure of the Report is outlined in*[*Annex 5*](https://undp.sharepoint.com/:u:/r/teams/BIH/Procurement%20Files/Annexes.zip?csf=1&web=1&e=guKR1y)*.* * **Evaluation review process**(and eventual dispute settlement): Comments, questions, suggestions and requests for clarification on the evaluation draft will be submitted to the Evaluation Team Leader and addressed in the agreed timeframe. The Evaluation Team Leader should reply to the comments through the **evaluation audit trail document**[[2]](https://undp.sharepoint.com/teams/BIH/TOR/02158-International%20Consultant%20for%20Mid-Term%20Project%20Evaluation.docx#_ftn2). If there is disagreement in findings, these should be documented through the evaluation audit trail, while effort should be made to come to an agreement. * **Evaluation debriefing:**will be held with UNDP team, institutions’ representatives and other key stakeholders to present the main findings and recommendations in an online form (i.e. Skype/Zoom/Microsoft Teams briefing). In addition, short briefings on immediate findings with UNDP senior management and the Government will be considered after completion of the initial assessment. * **Evaluation Report** (maximum 40 pages of the main body) should be logically structured (structure of the Evaluation Report is outlined in [Annex 5](https://undp.sharepoint.com/:u:/r/teams/BIH/Procurement%20Files/Annexes.zip?csf=1&web=1&e=guKR1y) of the Terms of Reference), contain data and evidence-based findings, conclusions, lessons learnt and recommendations, and be presented in a way that makes the information accessible and comprehensible. Finally, based on the evaluation findings and in a distinct report section, the Evaluation Team Leader will provide a **forward-looking actionable recommendations,**outlining key strategic priorities to be addressed after completion of the Project in terms of policy dialogue and the work influenced by UNDP, Government of Sweden and follow-up activities by the governments and public institutions in BiH. The executive summary should be maximum 3 pages.  |  | | --- | | ***UNDP Evaluation Guidelines Note:****As of 11 March 2020, the World Health Organization (WHO) declared COVID-19 a global pandemic as the new coronavirus rapidly spread to all regions of the world. If it is not possible to travel to or within the country for the evaluation then the evaluation team should develop a methodology that takes this into account, conduct of the evaluation virtually and remotely, including the use of remote interview methods and extended desk reviews, data analysis, surveys and evaluation questionnaires. This should be detailed in the Inception report and agreed with the Evaluation Manager.*  *If all or part of the evaluation is to be carried out virtually then consideration should be taken for stakeholder availability, ability or willingness to be interviewed remotely. In addition, their accessibility to the internet/ computer may be an issue as many government and national counterparts may be working from home. These limitations must be reflected in the evaluation report.*  *If a data collection/field mission is not possible then remote interviews may be undertaken through telephone or online (skype, zoom etc.). International consultants can work remotely with national Evaluator support in the field if it is safe for them to operate and travel****. No stakeholders, consultants or UN staff should be put in harm and the safety is the key priority.*** |   **IV. Evaluation timeframe**   |  |  |  |  | | --- | --- | --- | --- | | Deliverable | Anticipated timing | Number of days | Responsible party | | Desk review and Inception Report | 1 – 8 April, 2022  30 may 2022 | 5 | Evaluation Team | | Field data collection | 8 April – 22 April, 2022  13 June | 12 | Evaluation Team | | Evaluation debriefing/presentation | 5 May 2022  14 June | 1 | Evaluation Team | | Draft Evaluation Report | 6 – 16 May 2022 | 8 | Evaluation Team | | Report review (including several rounds of feedback) | 16 May – 20 June, 2022  15 July | 0 | Evaluation Reference Group[[3]](https://undp.sharepoint.com/teams/BIH/TOR/02158-International%20Consultant%20for%20Mid-Term%20Project%20Evaluation.docx" \l "_ftn3) | | Final Report | 30 June 2022 | 4 | Evaluation Team |   In line with the UNDP’s financial regulations, when determined by the Country Office and/or the consultant that a deliverable or service cannot be satisfactorily completed due to the impact of COVID-19 and limitations to the evaluation, that deliverable or service will not be paid. Due to the current COVID-19 situation and its implications, a partial payment may be considered if the consultant invested time towards the deliverable but was unable to complete to circumstances beyond his/her control.  **V.Evaluation team composition and required competencies**  The evaluation will be conducted by the Evaluation Team composed of an International Evaluation Consultant/Evaluation Team Leader and National Evaluation Consultant. The Evaluation Team Leader will lead the evaluation process and decide on planning and distribution of the evaluation workload and tasks. She/he will design and implement the evaluation process and will closely collaborate with the National Consultant who will provide support throughout the evaluation process.  The Evaluation Team Leader will report to the Evaluation Manager appointed by UNDP, who will oversee and support the overall evaluation process. In addition, an evaluation reference group will be formed to provide critical and objective inputs throughout the evaluation process to strengthen the quality of the evaluation. The Country Office Senior Management will take responsibility for the approval of the evaluation report. UNDP will support the implementation of remote/ virtual meetings. An updated stakeholder list with contact details (phone and email) will be provided by the Country office to the evaluation team.  [[1]](https://undp.sharepoint.com/teams/BIH/TOR/02158-International%20Consultant%20for%20Mid-Term%20Project%20Evaluation.docx#_ftnref1) UNDP Evaluation Guidelines: Evaluation During COVID-19.  [[2]](https://undp.sharepoint.com/teams/BIH/TOR/02158-International%20Consultant%20for%20Mid-Term%20Project%20Evaluation.docx#_ftnref2) Template available at <http://web.undp.org/evaluation/guideline/documents/PDF/UNDP_Evaluation_Guidelines.pdf>, p. 25  [[3]](https://undp.sharepoint.com/teams/BIH/TOR/02158-International%20Consultant%20for%20Mid-Term%20Project%20Evaluation.docx" \l "_ftnref3) Steering Committee members and Participating UN agencies, UNDP Evaluation Manager, UNDP EE Sector Leader, UNDP Project Coordinator. |
| **Competencies** |
| **Core values:**   * Demonstrates integrity and fairness by modelling UN values and ethical standards; * Displays cultural, gender, religion, race, nationality and age sensitivity and adaptability.   **Core competencies:**   * Demonstrates professional competence to meet responsibilities and post requirements and is conscientious and efficient in meeting commitments, observing deadlines and achieving results; * Results-Orientation: Plans and produces quality results to meet established goals, generates innovative, practical solutions to challenging situations; * Communication: Excellent communication skills, including the ability to convey complex concepts and recommendations, both orally and in writing, in a clear and persuasive style tailored to match different audiences; * Team work: Ability to interact, establish and maintain effective working relations with a culturally diverse team; * Client orientation: Ability to establish and maintain productive partnerships with national partners and stakeholders and pro-activeness in identifying of beneficiaries and partners’ needs and matching them to appropriate solutions. |
| **Required Skills and Experience** |
| **Qualifications/Education:**   * Minimum Master’s degree in environmental and ecological sciences (e.g. biochemistry, chemistry, technology) or other related disciplines;   **Experience:**   * Minimum 7 years of relevant experience Project and programme evaluations; * Knowledge of UN/UNDP monitoring and evaluation policies and guidelines; * Experience working in or closely with UN/UNDP is preferred; * Sound knowledge of results-based management systems, and monitoring and evaluation methodologies;   **Languages Requirements:**   * Fluency in English language; knowledge of local languages of BiH will be taken as asset.   **Other:**   * Deep understanding of the development context in BiH and preferably understanding of environmental priorities and challenges, industrial waste management issues within the country context; * Understanding and knowledge of the political and administrative context in BiH is an asset.   **Evaluation ethics**  This evaluation will be conducted in accordance with the principles outlined in the [UNEG ‘Ethical Guidelines for Evaluation’.](http://www.unevaluation.org/document/detail/102) The Evaluation Team Leader shall safeguard the rights and confidentiality of information providers, interviewees and stakeholders through measures to ensure compliance with legal and other relevant codes governing collection of data and reporting on data. The Evaluation Team Leader must also ensure security of collected information before and after the evaluation and protocols to ensure anonymity and confidentiality of sources of information where that is expected. The information knowledge and data gathered in the evaluation process must also be solely used for the evaluation and not for other uses with the express authorization of UNDP and partners. The Evaluation Team Leader must be free from any conflict of interest related to this evaluation.[[1]](https://undp.sharepoint.com/teams/BIH/TOR/02158-International%20Consultant%20for%20Mid-Term%20Project%20Evaluation.docx#_ftn1)  **Implementation arrangements and reporting relations**  The Evaluation Team Leader will report to the Evaluation Manager appointed by UNDP, who will oversee and support the overall evaluation process. An evaluation reference group will be formed to provide critical and objective inputs throughout the evaluation process to strengthen the quality of the evaluation. The UNDP Senior Management will take responsibility for the approval of the evaluation report. UNDP team will support the implementation of remote/ virtual meetings.. An updated stakeholder list with contact details (phone and email) will be provided by the Project to the evaluation team.  **TOR**[**annexes**](https://undp.sharepoint.com/:u:/r/teams/BIH/Procurement%20Files/Annexes.zip?csf=1&web=1&e=guKR1y)   * Annex 1. Project Logical Framework and Theory of Change * Annex 2. List of the main stakeholders and their roles in evaluation * Annex 3. List of documents to be considered for the evaluation desk review * Annex 4. Required Evaluation Matrix Template * Annex 5. Standard outline for an evaluation report * Annex 6. Code of Conduct * Annex 7. [Link to UNDP Evaluation Guidelines and Evaluation Quality Assessment Process](http://web.undp.org/evaluation/guideline/)   [[1]](https://undp.sharepoint.com/teams/BIH/TOR/02158-International%20Consultant%20for%20Mid-Term%20Project%20Evaluation.docx#_ftnref1) [UNDP Evaluation Guidelines, Box 7. Sources of conflict of interest in evaluation](http://web.undp.org/evaluation/guideline/documents/PDF/UNDP_Evaluation_Guidelines.pdf)  **Qualification Requirements**   |  |  |  | | --- | --- | --- | | ***Criteria*** | ***Points*** | ***Max. Points*** | | Relevant education | Max 25 points (20 points for MSc/MA  + up to 5 points for PhD) | 25 | | Relevant professional experience | Max 70 points | 70 | | Knowledge of English | Max 5 points - will be assessed as:  5 points for fluency and the points decrease as per the level mentioned in the CV: good - 4 points;  fair/upper intermediate – 3 points; intermediate - 2 points; beginner - 1 point. | 5 | | Total |  | 100 |   *Only candidates obtaining a minimum of 70 points would be considered for Technical Evaluation*  **Technical Evaluation**   |  |  |  | | --- | --- | --- | | ***Criteria*** | ***Weight*** | ***Max. Point*** | | *Technical* | *Total technical 100%* |  | | *Criterion A:*   * Rating based on Qualifications | *20%* | *20* | | *Criterion B:*   * Sound knowledge of results-based management systems, and gender-sensitive monitoring and evaluation methodologies; * Excellent knowledge of monitoring and evaluation methodologies; sound judgment and ability to objectively evaluate Projects in terms of processes, as well as results achieved (evidenced through previously conducted evaluations and references). * Sound knowledge of results-based management systems, and gender-sensitive monitoring and evaluation methodologies; * General understanding and knowledge of the political and administrative context in BiH. | *50%* | *50* | | *Criterion C:*   * Evaluation Methodology Proposal (outlining the specific design and methods for the evaluation):   + Explaining why they are the most suitable for the work;   + Providing a brief methodology on how they will approach and conduct the work;   + Presenting the Consultant’s approach, proposed detailed methods and tools, scope and evaluation criteria and questions;   The methodology should apply a mixed-method approach collecting both quantitative and qualitative data to validate and triangulate data;  The methodology should include the filled in evaluation matrix ([Annex 4](https://undp.sharepoint.com/:u:/r/teams/BIH/Procurement%20Files/Annexes.zip?csf=1&web=1&e=guKR1y)); | *30%* | *30* |   Only candidates obtaining a minimum of 70 points would be considered for the Financial Evaluation  **Evaluation**  Individual  will be evaluated based on the following methodology:  **Cumulative analysis**  When using this weighted scoring method, the award of the contract should be made to the candidate whose offer has been evaluated and determined as: a) responsive/compliant/acceptable, and b) Having received the highest score out of a pre-determined set of weighted technical and financial criteria specific to the solicitation.   * \* Technical Criteria weight-70% * \* Financial Criteria weight- 30%   Interested candidated must submit the following documents/information to demonstrate their qualifications:   1. Most recent CV, including reference to similar evaluations conducted by the candidate; 2. Financial proposal (to be submitted separately); 3. Evaluation Methodology Proposal (outlining the specific design and methods for the evaluation):  * Explaining why they are the most suitable for the work; * Providing a brief methodology on how they will approach and conduct the work;   + the methodology should present the Consultant’s approach, proposed detailed methods and tools, scope and evaluation criteria and questions;   + the methodology should apply a mixed-method approach collecting both quantitative and qualitative data to validate and triangulate data;   + the methodology should include the filled in evaluation matrix ([Annex 4](https://undp.sharepoint.com/:u:/r/teams/BIH/Procurement%20Files/Annexes.zip?csf=1&web=1&e=guKR1y)).   Please scan all above mentioned documents and upload as one attachment only online through this website.  **Note:**   * For an assignment requiring travel, consultants of 65 years or more require full medical examination and statement of fitness to work to engage in the consultancy. * Due to large number of potential applicants, only competitively selected candidates will be contacted for remaining steps of the service procurement process. |

# Appendix 2: Detailed results framework of the project

Results Framework

| **Hierarchy of objectives**  **Strategy of Intervention** | **Key Indicators** | | | **Data Sources**  **Means of Verification** | **Assumptions** |
| --- | --- | --- | --- | --- | --- |
| **Overall Goal** | **Impact Indicators** | | |  |  |
| **To reduce risk for people’s health and the environment through the prevention of unintentional persistent organic pollutants` (U-POPs) releases, shifting from POPs toward non-POPs chemicals in the plastic industry.** | *Indicator: Waste containing persistent organic pollutants (POPs) destructed in a sound manner.*  *Baseline: 0 tons (2019)*  *Target: 5 tons (2021/2022)*  *Final target: 50 tons (2023/2024)*  *Indicator: Number of women and man that participate in recognition, definition and project implementation activities*  *Baseline: 5 females and 2 males (2019)*  *Target: 12 females and 12 males (2021/2022)*  *Final Target: 20 females and 20 males (2023/2024)* | | | Project reports  Mid-term review  Final review |
| ***Component 1: Capacity building and mainstreaming of POPs related legislation into the process of harmonization of the BiH environmental legislation*** | | | | | |
| **Outcomes** | **Outcome Indicators** | | |  | **Assumptions and risks** |
| **Outcome 1**: POPs related legislation mainstreamed into the process of inter-institutional and EU harmonization of the BIH environmental legislation and POPs inventory/registry developed | *Indicator:* Framework for the implementation of the Stockholm Convention in Bosnia and Herzegovina developed and aligned with EU accession requirements  *Baseline*: No (2019)  *Target:* Yes (2022) | | | Project reports  Mid-term review  Final review  Verification by the third body | Institutional framework for implementation of Stockholm Convention harmonized with NIP  Institutional partners embrace participatory approach to decision-making on Stockholm Convention |
| **Gender analysis conducted (distributed by Project Outcomes)** | Gender analysis will be conducted and developed in the Inception phase of the project  Gender indicators for the POPs project:   * Number of Project's employees and Project partners trained on gender mainstreaming * Number of women and men (with regard to their position) represented into working groups relevant to the Project * Number of awareness-raising events organized in cooperation with local NGOs and CSOs. * Number of women and men that participate in recognition, definition and project implementation activities * Estimated outreach on chemicals safety and risks, targeted toward the general public and vulnerable populations * Number of gender related topics included into Communication strategies aimed to influence the stakeholders that are relevant to the campaign | | | Project reports  Mid-term review  Final review  Verification by the third body  Gender Mainistreaming Document with Gender Action Plan |  |
| **Communication Strategy developed** | Communication Strategy will be conducted and developed in the Inception phase of the project  *Indicator:* Number of gender related topics included into Communication strategies aimed to influence the stakeholders that are relevant to the campaign  *Baseline*: 0 (2019)  *Target: at least 1 (2020)* | | | Project reports  Mid-term review  Final review  Verification by the third body  Communication and Visibility Action Plan |  |
| **Output 1.1:** Coordination structure for the implementation of the Convention (horizontal and vertical) established to ensure that POPs related legislation is mainstreamed into the process of inter-institutional and EU harmonization of the BiH`s environmental legislation | | *Indicator: Established functional working groups for implementation of Stockholm Convention in accordance with National Implementation Plan (NIP)*  *Baseline: No (2019)*  *Target: Yes (First year of the Project – 2019/2020)* | | Project reports  Working groups TOR and meeting minutes | Proposals set out in the NIP are followed  Institutional roles and responsibilities are clear and agreed |
| **Output 1.2**: Stockholm Convention mainstreamed in the environmental legislation of the 2 entities and Brčko District. | | *Indicator:* At least four (4) POPs related decrees drafted and approved by the working groups  *Baseline*: No (2019)  *Target*: 0 (2020/2021)  *Target*: 4 (2021/2022)  Final Target: 4 (2023/2024) | | Project reports  Mid-term review  Final review  Official gazettes (B-H and entity-level) | Limited political and institutional ownership |
| **Output 1.3:** Training on the integration of the Stockholm Convention with the EU and different level of governments in BiH (BiH, FBIH, RS and BD) legislation on chemical and waste for environmental decision makers carried out | | *Indicator:* Training program developed and provided for environmental decision makers  *Baseline*: No (2019)  Target: Yes (2021/2022)  *Target*: Yes (2023)  *Indicator*: BiH wide consultations organized  *Baseline*: No (2019)  *Target*: Yes (2022) | | List of participants  Training programme  Consultation meeting minutes  Project reports | Institutional roles and responsibilities are clear and agreed |
| **Output 1.4:**  A database on POPs, containing also information on new POPs not fully addressed in the NIP is developed and made available to stakeholders and listed in database. At least **two** major abandoned industrial sites inspected and included in Inventory on POPs | | *Indicator:* Established database on POPs  *Baseline*: No (2019)  *Target*: No (2020)  Target: Yes (2021) | | Project Reports  Mid-term Review  Final Review | Data exchange not agreed amongst all institutions  Limited interest by the private sector to engage in project activities |
| **Output 1.5:**  POPs containing waste or equipment disposed of through packaging and shipping to disposal facilities, compliant with the Stockholm Convention and Basel Convention’s requirements | | *Indicator:* Quantity (in tons) of POPs containing waste or equipment disposed of  *Baseline*: 0 (2019)  *Target*: 0 tons (2021)  50 tons (2024) | | Project reports  Mid-term review  Verification by the third body |  |
| **Component 2: Prevention and monitoring of U-POPs generation and of release of POPs through minimization, segregation and environmentally sound management of selected hazardous waste stream** | | | | | |
| **Outcomes** | **Outcome Indicators** | | |  | **Assumptions and risks** |
| **Outcome 2.1**: Around 2g TEq of PCDD/F release avoided through the establishment of capacity for the proper segregation and management of waste generating U-POPs | *Indicator:* Proper segregation and management of waste established  *Baseline*: No (2019)  Target: N/A (2022/2023) | | | Project reports  Mid-term review  Final review  Verification by the third body | Public sector institutions are willing to be actively involved in project activities  Limited interest by the private sector to engage in project activities |
| **Output 2.1.1.:**  Dioxins` (PCDD/F) release avoided through the implementation of environmentally sound management of plastic waste contaminated by pesticides | | *Indicator:* Quantity (in grams of toxic equivalents g TEq) of PCDD/F avoided  *Baseline*: 0 (2019)  *Target*: 2 g TEq (2022)  2 g TEq (2023)  *Indicator:* Number of people from relevant institutions and pesticide retailers trained  *Baseline:* 0 (2019)  *Target:* 100 (2023)  60 (2021)  40 (2022) | | Project reports  Mid-term review  Final review  Verification by the third body | Limited interest by the private sector to engage in project activities |
| **Outcome 2.2:**  Capacity for monitoring of POPs and U-POPs in the environment and at the originating sources established | | *Indicators for the Outcome are the same as for the Outputs below.* | | Project reports  Mid-term review  Final review  Verification by the third body |  |
| **Output 2.2.1:** Laboratory trained on sampling and analyses of POPs and U-POPs in the environment and on the stack of industrial sources. Sampling and analyses of POPs (U-POPs in the atmosphere and POPs pesticide in soil) carried out | | *Indicator:* Number of laboratories trained on sampling and analyses of POPs and U-POPs  *Baseline*: 0 (2019)  *Target*: 1 (2023)  *Indicator:* Number of sampling and analyses of POPs and U-POPs carried out  *Baseline*: 0 (2019)  *Target*: 20 (2023); 30 (2024)   * 30 samples of soil or chemical stock piles * 10 samples of environmental air   10 samples at the stack of industrial or waste disposal facilities | | Project reports  Mid-term review  Final review  Verification by the third body | Limited interest by the private sector to engage in project activities |
| **Outcome 2.3:**  Illegal import or marketing of chemicals and goods containing or contaminated by POPs prevented | | *Indicator:* Number of employees of Custom Service trained to track illegal import of chemicals and goods contaminated by POPs  *Baseline*: 0 (2019)  *Target*: 20 (2021) | | Project reports  Mid-term review  Final review  Verification by the third body |  |
| **Component 3: Implementation of green chemistry principles in plastic manufacturing to prevent the use of and release of new POPs, including the candidate deca PBDE and SCCP** | | | | | |
| **Outcome 3:**  Green chemistry principles adopted in the emerging plastic manufacturing sector with the avoidance of the use of polybrominated diphenyl ethers (PBDE), deca PBDE and short chain chlorinated paraffins (SCCP) | |  | | Project reports  Mid-term review  Final review  Verification by the third body | Limited interest by the private sector to engage in project activities |
| **Output 3.1:** Training on green chemistry in plastic manufacturing | | *Indicator:* Number of participants trained on green chemistry in plastic manufacturing  *Baseline*: 0 (2019)  *Baseline*: 0 (2019)  *Target*: 20(2021); 30 (2022) | | Project reports  List of participants  Training report |  |
| **Output 3.2:**  Non-POP alternative to flame retardants introduced in plastic manufacturing | | *Indicator:* Quantity (in tons) of polybrominated diphenyl ethers (C-PBDE) replaced by introduction of non-POP alternative to flame retardants in plastic manufacturing  *Baseline*: 0 (2019)  *Target*: 5 tons (2021)  5 tons (2022)  *Indicator:* Quantity (in tons) of short chain chlorinated paraffins (SCCP) replaced by introduction of non-POP alternative to flame retardants in plastic manufacturing  *Baseline*: 0 (2019)  *Target*: 5 tons (2021)  5 tons (2022) | | Project reports  Mid-term review  Final review  Verification by the third body  Industrial production reports | Limited interest by the private sector to engage in project activities |
| **Output 3.3:**  Development of incentive mechanisms to ensure sustainability and replicability of green chemistry initiative in the manufacturing industry | | *Indicator:* Incentive mechanism to ensure sustainability and replicability of green chemistry initiative in the manufacturing industry developed  *Baseline*: No (2019)  *Target*: Yes (2022) | | Project reports  Mid-term review  Final review  Verification by the third body |  |
| **Component 4: Management and disposal of PCBs and POPs from abandoned industrial premises** | | | | | |
| **Outcome 4**  *Risk assessment conducted, and remediation designs developed for at least two contaminated site* | | *Indicators for the Outcome are the same as for the Outputs below.* | | Project reports  Mid-term review  Final review  Verification by the third body | Limited interest by the private sector to engage in project activities |
| **Output 4.1.1.**  **Risk assessment conducted, and remediation designs developed for at least 2 POPs contaminated sites** | | *Indicator: A complete Remediation designs for, at least, two (2) POPs contaminated sites will be drafted*  *Baseline: 0 (2019)*  *Target: 1 (2021)*  *2 (2024)* | | Project reports  Mid-term review  Verification by the third body | Limited interest by the private sector to engage in project activities |
| **Component 5. Monitoring, learning, adaptive feedback, outreach and evaluation** | | | | | |
| **Outcome 5.1:**  Project results monitored, adaptive management applied, lessons-learned, experiences, and best practices extracted and disseminated at BiH wide and regional level | | *Indicator:* Documentation of project results and achievements  *Baseline:* NA (2019)  *Target:* 1 comprehensivedocumentcontaining all relevant information on project results and achievements consolidated (2023) | | Project reports  Mid-term review  Verification by the third body | Institutional roles and responsibilities are clear and agreed |
| **Output 5.1.1:**  Adaptive management applied, lessons-learned, best practices and experiences collected and disseminated at BiH wide and regional level to support replication | | *Indicator:* Methodology for POPs monitoring and evaluation of results developed  *Baseline:* 0 (2019)  *Target:* 1 methodology developed (2023)  *Indicator: Study visits to the institutions from the region for showcasing the best practices of POPs M&E to the relevant institutions organized*  *Baseline:* 0 (2019)  *Target:* at least 2 study visits organized (2023)  *Indicator:* Number of people participated to the study visits  *Baseline:* 0 (2019)  *Target:* 20, at least 20% are female participants (2023)  *Indicator:* Number of trainings on POPs-related gender mainstreaming  Baseline: 0 (2019)  Target: 1 (2021)  *Indicator:* Number of trainings for Project's employees and Project partners on POPs-related gender mainstreaming  *Baseline*: 0 (2019)  *Target:* 1 in total: 1 (2021)  *Indicator:* Number of POPs-related awareness-raising campaigns organized  *Baseline*: 0 (2019)  *Target:* 4 in total: 0 (2020), 1 (2021), 2 (2022), 1 (2023)  *Indicator*: Number of POPs-related awareness-raising events organized in cooperation with local NGOs and CSOs  *Baseline*:0 (2019)  *Target: at least 1 (2022)*  *Target:* at least 2 (2023)  *Indicator:* Estimated outreach on chemicals safety and risks, targeted toward the general public and vulnerable populations  *Baseline:* 0 (2019)  *Target:*  awareness raising events:,250, at least 30% are females (2021), 250, at least 30% are females (2022), 250, at least 30% are females (2023)  social media channels: *8,428* (2020), 10,000 (2021), 20,000 (2022), 20,000 (2023) | | Project reports  Mid-term review  Verification by the third body | Roles and responsibilities within the UNDP PMU are clear and agreed |
| **Component 6. Development of inventory of cooling equipment using ozone depleting substances** | | | | | |
| **Outcome 6.1:** Emissions of ozone-depleting substances (ODSs) avoided through the establishment of capacity for proper segregation and management of appliances and equipment containing ODSs | | *Indicator: Proper segregation and management of waste and equipment containing ODS established*  *Baseline: No (2019)*  *Target: Yes (2021)*  *Target: Yes (2023)* | |  |  |
| **Output 6.1.1:**  Emissions of ODSs prevented and management of ODSs improved | | *Indicator:* Number of appliances and equipment inserted into the database  *Baseline*: 0 (2019)  *Target:* up 600 (2022)  *Indicator:* Number of owners/operators of appliances and equipment inserted into the database  *Baseline*: 0 (2019)  *Target:* 300 (2021)  *Indicator:* Number of authorized repairers (servicing technicians) of refrigeration equipment and appliances inserted into the database  *Baseline*: 0 (2019)  *Target:* 130 (2021)  *Indicator:* Number of importers of equipment and devices inserted into the database  *Baseline*: 0 (2019)  *Target:* up to 30 (2022) | | Project reports  Mid-term review  Final review  Verification by the third body | Limited interest by the private sector to engage in project activities |
| **Outcome 6.2:**  Capacity for monitoring of ODSs in relevant value-chains established | | *Indicator:* Number of legislative documents regulating the issues of ODSs updated  *Baseline:* 5 (2019)  *Target:* 0 (2020)  4 (2021)    *Indicator:* Service Record System for appliances and equipment inserted into the database established  *Baseline:* No (2019)  *Target:* Yes (2022)  *Indicator:* Inspectionof equipment, service records, repairers, equipment importers by environmental inspectors;  *Baseline:* No (2019)  *Target:* Yes (2022)  *Indicator:* Number of trainings for employees of administrative institutions on monitoring and reporting the import of ODSs organized  *Baseline:* 0 (2019)  *Target:* 2 (2022)  *Indicator:* Number of trainings for employees of industries involved in the project  *Baseline:* 0 (2019)  *Target:* 2 (2022)  *Indicator:* Number of employees of industries involved in the project that attended the trainings  *Baseline:* 0 (2019)  *Target:* 20 (2022)  *Indicator:* Number of employees of administrative institutions that attended the trainings  *Baseline:* 0 (2019)  *Target:* 20 (2022)  *Indicator*: Number of meetings for regional experience-sharing regarding the ODSs-related databases  *Baseline:* 0 (2019)  *Target:* 2 (2022) | |
| **Component 7.**  **Responsible management of potentially infectious waste in relation to the covid-19 public health crisis** | | | | | |
| **Outcome 7.1** Authorities are supported to provide inclusive and multi-sectoral crisis management and response to COVID-19, particularly regarding medical waste management. | | *Indicators for the Outcome are the same as for the Outputs below.* | |  |  |
| **Output 7.1.1:**  Households with COVID-19 positive members or those in self-isolation dispose of their waste responsibly and safely, while the general population is aware of the responsible behaviour in terms of waste disposal during the public health crisis | | *Indicator:*  Developed instruction for waste handling of the potentially infectious waste treatment at home  *Baseline*: No (2020)  *Target:* Yes (2020)  *Indicator:*  Simple communication strategy with devised key messages developed and validated by key stakeholders  *Baseline: No (2020)*  *Target: Yes (2020)* | | Project reports  Mid-term review  Final review  Verification by the third body | Difficult access to target groups and partners during the emergency |
| **Output 7.1.2:**  Current medical waste management practices and facilities in health care institutions in the most COVID-19 affected areas are rapidly assessed and capacitated to accommodate the newly-generated waste, as well as prepare the system for events of similar nature in the future. | | *Indicator: Report on rapid scan of the medical waste disposal practices during the public health crisis*  *Baseline: No (2020)*  *Target: Yes (2020)*    *Indicator:*  Number of separate waste disposal equipment and medical waste treatment facilities procured  *Baseline:* 0 (2020)  *Target:* 3 (2020)  *Indicator:*  Updated database on medical waste generation  *Baseline: No (2020)*  *Target: Yes (2020)*  *Indicator:*  Analyse of the quantity and type of medical waste produced in healthcare institutions developed  *Baseline: No (2020)*  *Target: Yes (2020)*  *Indicator:*  Number of healthcare workers trained to apply the best international practices for separation and overall handling of medical waste in healthcare institutions  *Baseline:* 0 (2020)  *Target:* 100 (2020)  (at least 30% are female healthcare workers) | |
| Output 7.1.3: Public utilities for waste management are capable to effectively and safely provide waste services in the public health crisis. | | *Indicator:*  *Localized protocols for treating potentially infectious household waste for waste management companies developed*  *Baseline: No (2020)*  *Target: Yes (2020)*  *Indicator:*  *Number of personal protective equipment sets for workers collecting household waste in target communities procured*  *Baseline:0 (2020)*  *Target: 700 (2020)* | | *Project reports*  *Mid-term review*  *Final review*  *Verification by the third body* | *Procurement challenges* |
| **Activities for Output 1.1.1** | | | **Inputs** | | |
| Activity 1.1.1.1: Develop a road map for a coordinating body obligations’, deliverables, deadlines, relevant sectors, and mapped relevant institutions and data exchange/data flows | | | Local expert  UNDP project team  National Implementation Plan for Stockholm Convention | | |
| Activity 1.1.1.2: Institutions identified as members of Coordinating body will nominate the persons responsible for the implementation of the Stockholm Convention | | | Nominated representatives | | |
| Activity 1.1.1.3: Preparing and holding an Initial coordinating body meeting | | | UNDP project team  Nominated representatives from relevant institutions  Representatives of SIDA | | |
| **Activities for Output 1.1.2** | | | **Inputs** | | |
| Activity 1.1.2.1: Preparing a Gap analysis of the existing environmental legal framework and institutional needs concerning the Stockholm Convention and EU legislation | | | Local expert  Nominated representatives from relevant institutions  UNDP project team | | |
| Activity 1.1.2.2: Prioritize and decide on development/amendments of the POPs related legal acts | | | Local expert  Nominated representatives from relevant institutions  UNDP project team  Relevant laws and bylaws | | |
| Activity 1.1.2.3: Develop legal acts as communicated and agreed with the coordinating body based on the gap analyses and decision made previously | | | Local expert  Nominated representatives from relevant institutions  UNDP project team  Relevant laws and bylaws | | |
| **Activities for Output 1.1.3** | | | **Inputs** | | |
| Activity 1.1.3.1: Develop and provide training programme for environmental decision makers on the integration of the Stockholm Convention and the EU rules and regulations on different level of governments in BiH (BiH, FBIH, RS and BD) legal framework | | | International expert  Local expert  Nominated representatives from relevant institutions  UNDP project team | | |
| Activity 1.1.3.2: Organize trainings for decision makers within the relevant fields in accordance with the developed training programme | | | International expert  Local expert  Nominated representatives from relevant institutions  UNDP project team | | |
| Activity 1.1.3.3: Organize BiH wide consultations on the integration of the Stockholm Convention with the EU and different level of governments in BiH (BiH, FBIH, RS and BD) legislation on chemicals and waste | | | International expert  Local expert  Nominated representatives from relevant institutions  UNDP project team | | |
| **Activities for Output 1.1.4** | | | **Inputs** | | |
| Activity 1.1.4.1: Develop a list of all 28 chemicals covered by the Stockholm Convention and their (potential) data sources in BiH | | | Nominated representatives from relevant institutions  UNDP project team  NIP  Country reports to Stockholm Convention | | |
| Activity 1.1.4.2: Desk review of existing data sets, data collection, and data flows across responsible institutions in BiH at all levels | | | Local expert  Nominated representatives from relevant institutions  UNDP project team | | |
| Activity 1.1.4.3: In collaboration with the coordinating body establish an inventory/ database on 28 POPs, with appropriate tools and user manuals, and mapped data entry points | | | Local expert  Nominated representatives from relevant institutions  UNDP project team | | |
| Activity 1.1.4.4: Organize official testing event (stakeholder consultations/training) | | | Local expert  Nominated representatives from relevant institutions  UNDP project team | | |
| Activity 1.1.4.5: Draft reporting mechanism proposal for data reporting | | | Local expert  Nominated representatives from relevant institutions  UNDP project team | | |
| **Activities for Output 2.1.1.** | | | **Inputs** | | |
| Activity 2.1.1.1: Determine the baseline for POPs emission | | | Local expert  Nominated representatives from relevant institutions  UNDP project team | | |
| Activity 2.1.1.2: Develop methodology and selection criteria for the healthcare facilities | | | UNDP project team  Local expert | | |
| Activity 2.1.1.3: Identification and selection of the 10 pilot healthcare facilities | | | UNDP project team | | |
| Activity 2.1.1.4: Organize a series of training modules on good practices in health-care waste management | | | Local expert  UNDP project team | | |
| Activity 2.1.1.5: Demonstrating environmentally sound management using appropriate BAT/BEP technologies and calculate resulting emission reduction | | | International expert | | |
| **Activities for Output 2.1.2.** | | | **Inputs** | | |
| Activity 2.1.2.1: Initial screening of the farmers, pesticide retailers and relevant institutions via questionnaire on types of activities conducted, types and quantities of pesticides used, and other relevant data to determine a pool of subjects to undergo a training | | | Local expert  Nominated representatives from relevant institutions  UNDP project team | | |
| Activity 2.1.2.2: Develop training modules for pesticide retailers and representatives of relevant government institutions. Organize 5 trainings in total, 2 in each entity and 1 in Brčko District, to train in total 100 people from relevant institutions and pesticide retailers | | | UNDP project team  Local expert | | |
| Activity 2.1.2.3: On site demonstration of environmentally sound management of plastic waste contaminated by pesticides | | | UNDP project team | | |
| Activity 2.1.2.4: Purchase of containers for safe disposal of empty pesticides containers for at least 10 pesticide retailers for dissemination to the farmers | | | Local expert  UNDP project team | | |
| Activity 2.1.2.5: Public awareness rising for promotion of the safe disposal of empty pesticides containers via brochures and leaflets to be disseminated in pesticide shops and by retailers | | | International expert | | |
| **Activities for Output 2.2.1.** | | | **Inputs** | | |
| Activity 2.2.1.1: Desktop review of existing laboratories in BiH performing sampling and analyses of POPs to select laboratories to undergo trainings | | | UNDP Project team  Local consultancy | | |
| Activity 2.2.1.2: Development of the training module on the sampling and analysis of POPs and U-POPs in the environment and at the stack of industrial sources | | | UNDP Project team  Local consultancy  International Consultant | | |
| Activity 2.2.1.3: Conduct series of trainings on sampling and analysis of POPs and U-POPs in the environment and at the stack of industrial sources (ensuring the accreditation of the laboratory according to BAN ISO / IEC 17025 and implementation of the Principles of Quality Assurance and Good Laboratory Practice) | | | UNDP Project team  Local consultancy  International Consultant | | |
| **Activities for Output 2.3.1.** | | | **Inputs** | | |
| Activity 2.3.1.1: In cooperation with Indirect tax authority of BiH conduct a mapping of customs offices in Bosnia and Herzegovina to identify locations with the most intense chemicals' import | | | UNDP Project team  Local consultancy  Nominated representatives from relevant institutions | | |
| Activity 2.3.1.2: Prepare and distribute a manual for custom officers on identification, prevention of illegal import of POPs and safe handling | | | UNDP Project team  Local consultancy  Nominated representatives from relevant institutions | | |
| Activity 2.3.1.3: Organize working sessions for nominated custom officers for presentation of the manual | | | UNDP Project team  Local consultancy  Nominated representatives from relevant institutions | | |
| **Activities for Output 3.1.1.** | | | **Inputs** | | |
| Activity 3.1.1.1: Conduct a screening of plastic manufacturing companies and develop methodology and selection criteria for participation in capacity building and trainings | | | UNDP Project team  Local consultancy  Nominated representatives from relevant institutions | | |
| Activity 3.1.1.2: Using the best EU practices organize a training aimed at ensuring capacity building in the plastic manufacturing industry for selected companies | | | UNDP Project team  Local consultancy  International expert | | |
| Activity 3.1.1.3: Out of trained companies select at least three (3) to monitor the level of success for adoption of the green chemistry principle | | | UNDP Project team  Local consultancy  Nominated representatives from relevant institutions | | |
| Activity 3.1.1.4: Establish a cluster of plastic manufacturers to set a base for the future training centre | | | UNDP Project team  Local consultancy  Nominated representatives from relevant institutions | | |
| **Activities for Output 3.1.2.** | | | **Inputs** | | |
| Activity 3.1.2.1: Site visits and environmental audits in manufacturing plants | | | UNDP Project team  Local consultancy  International consultant | | |
| Activity 3.1.2.2: Assessment of SDS to id3entify information missing | | | UNDP Project team  Local consultancy  International consultant | | |
| **Activities for Output 3.1.3.** | | | **Inputs** | | |
| Activity 3.1.3.1: Develop incentive mechanisms to ensure sustainability and replicability of green chemistry initiative in the manufacturing industry | | | Environmental Funds  Working groups  UNDP project team  International expert  Local expert | | |
| **Activities for Output 4.1.1.** | | | **Inputs** | | |
| Activity 1 Conduct preliminary risk assessment to determine level of risk posed to people and ecosystem in the impact area of the contaminated industrial site; | | | UNDP Project team  Local consultancy  International consultant | | |
| Activity 2 Conduct sampling, laboratory analyses and detailed risk assessment on the location | | | UNDP Project team  Local consultancy  International consultant | | |
| Activity 3 Perform detailed soil sampling campaign, develop remediation design, and calculate cost for different options available and proposed for site remediation. | | | UNDP Project team  Local consultancy  International consultant | | |
| **Activities for Output 5.1.1.** | | | **Inputs** | | |
| 5.1.1.1: Research of applicable best practices and lessons learned, especially from the EU countries, skills and competences acquired through the implementation of approved projects | | | UNDP Project team  Local consultancy  International consultant | | |
| 5.1.1.2: Implementation and application of researches and methodologies within the institutions responsible for the implementation of POPs monitoring, and evaluation of research results | | | UNDP Project team  Local consultancy  International consultant  Working groups | | |
| 5.1.1.3: Awareness rising campaign in the country. | | | UNDP Project team  Local consultancy | | |
| 5.1.1.4: Accumulation of all materials project produced, training modules, researches, lessons learned, best practices used in one comprehensive document. | | | UNDP Project team | | |
| **Activities for Output 6.1.1:** | | | **Inputs** | | |
| 6.1.1.1: Inventory of appliances and equipment in the sector of refrigeration and air-conditioning technology and heat pumps and fire protection systems in Bosnia and Herzegovina | | | UNDP Project team  Local consultancy  Nominated representatives from relevant institutions | | |
| 6.1.1.2: Development of databases of owners/operators of equipment and devices | | | UNDP Project team  Local consultancy  Nominated representatives from relevant institutions | | |
| 6.1.1.3: Development of databases of owners/operators of equipment and devices | | | UNDP Project team  Local consultancy  Nominated representatives from relevant institutions | | |
| 6.1.1.4: Development of database of authorized repairers of refrigeration equipment and appliances | | | UNDP Project team  Local consultancy  Nominated representatives from relevant institutions | | |
| 6.1.1.5: Development of database of importers of equipment and devices | | | UNDP Project team  Local consultancy  Nominated representatives from relevant institutions | | |
| **Activities for Outcome 6.2:** | | | **Inputs** | | |
| 6.2.1: Provision of technical support aimed at enabling the implementation and improvement of the existing legislation in BiH related to ODSs | | | UNDP Project team  Local consultancy  Nominated representatives from relevant institutions | | |
| 6.2.2: Development of Service Record System for appliances and equipment inserted into the database | | | UNDP Project team  Local consultancy  Nominated representatives from relevant institutions | | |
| 6.2.3: Provision of technical support for establishment and improvement of the system for issuing licenses to companies involved in repairs of refrigeration and air conditioning equipment, heat pumps and fire protection systems | | | UNDP Project team  Local consultancy  Nominated representatives from relevant institutions | | |
| 6.2.4: Provision of technical support aimed at capacity building of environmental inspectors to conduct inspectionof equipment, service records, repairers and equipment importers | | | UNDP Project team  Local consultancy  Nominated representatives from relevant institutions | | |
| 6.2.5: Provision of technical support aimed at capacity building of employees of Indirect Taxation Authority (Custom Service) on monitoring and reporting the import of ODSs | | | UNDP Project team  Local consultancy  Nominated representatives from relevant institutions | | |
| 6.2.6: Provision of support in the exchange of experiences with countries from the Region on the database of devices and equipment, as well as the service records system | | | UNDP Project team  Nominated representatives from relevant institutions | | |
| **Activities for Outcome 7.1:** | | | **Inputs** | | |
| 7.1.1. Develop instruction for waste handling of the potentially infectious waste treatment at home | | | UNDP Project team  Local consultancy  Nominated representatives from relevant institutions | | |
| 7.1.2: Develop and deliver a simple communication strategy with key messages devised and validated by key stakeholders | | | UNDP Project team  Local consultancy  Nominated representatives from relevant institutions | | |
| 7.2.1: Rapid scan the medical waste disposal practices during the public health crisis | | | UNDP Project team  Local consultancy  Nominated representatives from relevant institutions | | |
| 7.2.2.: Procure separate waste disposal equipment and medical waste treatment facilities | | | UNDP Project team  Local consultancy  Nominated representatives from relevant institutions | | |
| 7.2.3: Update databases on medical waste generation in the country and analyse the quantity and type of medical waste produced in healthcare institutions | | | UNDP Project team  Local consultancy  Nominated representatives from relevant institutions | | |
| 7.2.4: Training for healthcare workers | | | UNDP Project team  Nominated representatives from relevant institutions | | |
| 7.3.1: Conduct a rapid situation assessment on operational health and safety measures in place by waste management companies | | | UNDP Project team  Local consultancy  Nominated representatives from relevant institutions | | |
| 7.3.2: Compile localized protocols for treating potentially infectious household waste for waste management companies | | | UNDP Project team  Local consultancy  Nominated representatives from relevant institutions | | |
| 7.3.3: Procure personal protective equipment for workers collecting household waste in target communities | | | UNDP Project team  Local consultancy  Nominated representatives from relevant institutions | | |

# Appendix 3 –Evaluation matrix

Evaluation matrix

| Indicators/ Success standards | Data sources | Data collection methods/ tools | Methods for data analysis |
| --- | --- | --- | --- |
| Evaluation Criteria: Impact - Evaluation Questions:   * + What is the Project impact in qualitative as well as quantitative terms from a broader development and system building perspective? What would the development have been like without the Project’s interventions in the area of concern?   + What are the positive or negative, intended or unintended, changes brought about by the Project’s interventions?   + To what extent the Project’s intervention may have led to adaptive change and paradigm shift towards resilient development pathways? | | | |
| Societal positive trends (better health, better awareness)  Beneficiaries’ satisfaction and feedback  Stakeholders’ attitudes, beliefs, opinions, perceptions  Beneficiaries’ behaviour change | Project documentation  Key strategic statistics (community level)  Stakeholders feedback  Beneficiaries feedback | Desktop review  Collecting societal health and awareness-related statistics  Stakeholders semi-structured interviews  Beneficiaries’ surveys | Document analysis  Thematic analysis of the stakeholder feedback  Survey analysis in excel |
| Evaluation Criteria: Effectiveness - Evaluation Questions:   * + To what extent have the intended results been achieved? What are the main Project’s accomplishments? Overview of the Project’s progress against the result framework indicators is to be provided in an Annex of the Evaluation Report. Briefly explain the reasons behind the success (or failure) of the Project in producing its different outputs and meeting expected quality standards? Were key stakeholders appropriately involved in producing the programmed outputs?   + To what extent has the Project supported effective capacity building for monitoring, management and disposal of POPs, including harmonization of relevant legislation? What good practices or successful experiences or transferable and innovative examples have been identified? Are there any course correction measures to be undertaken by the end of the project?   + To what extend has the Project outreached marginalized groups (i.e. youth, persons with disabilities, returnees, internally displaced, minorities…)? Have the interventions been implemented in accordance with a civic and human rights perspective: i.e. have target groups been participating in planning, implementation and follow up? Has anyone been discriminated by the Projects through the implementation? Have the Projects been implemented in a transparent fashion? What accountability mechanisms have been applied in the Projects? | | | |
| Assessment of all indicators defined in the results framework (prodoc)  Stakeholders feedback | Progress reports  Deliverable reports  Workshop reports  Stakeholders feedback  Beneficiaries feedback | Desktop review  Stakeholders semi-structured interviews  Beneficiaries’ surveys | Document analysis  Thematic analysis of the stakeholder feedback  Survey analysis in excel |
| Evaluation Criteria: Relevance & coherence - Evaluation Questions:   * + Are the Project’s objectives relevant to the needs and priorities of the country and beneficiaries, having in mind political, social, legal and institutional context of the country, effective national policies and strategies?   + Have any changes been made to the Project’s design during the implementation? If yes, did they lead to significant design improvements? Were adequate steps taken by the Project to adjust its implementation strategy to the new circumstances and needs imposed by COVID-19 pandemic relevant?   + Are coordination, management and financing arrangements clearly defined and did they support institutional strengthening and local ownership? To what extent were human rights, gender equality and social inclusion mainstreamed within the Project? Has this mainstreaming been relevant to the needs of socially excluded groups and both women and men?   + To what extent has the Project been successful in ensuring complementarity, harmonisation and coordination with other relevant interventions of the governments in BiH and other donors, avoiding duplication of efforts and adding value? | | | |
| Level of coherence between project objectives and local policies  Degree of coherence between the project and national priorities, policies and strategies in the area of climate change  Level of coherence between project design and project implementation approach  SMARTness of the results framework  Beneficiaries feedback | Project documents  National policies and strategies to  National and local SDG framework  Key government officials and other partners  Stakeholders feedback  Beneficiaries feedback | Desktop review  Stakeholders semi-structured interviews  Beneficiaries’ surveys | Document analysis  Thematic analysis of the stakeholder feedback  Survey analysis in excel |
| Evaluation Criteria: Efficiency - Evaluation Questions:   * + Have resources (financial, human, technical) been allocated strategically and economically to achieve the Project’s results? Has co-funding provided by additional donors ensured complementarity with the overall Project intervention? Were the Project’s activities implemented as scheduled and with the planned financial resources? Is the relationship between Project’s inputs and results achieved appropriate and justifiable?   + To what extent did the Project engage or coordinate with different beneficiaries (men and women), implementing partners and national counterparts to achieve outcome-level results? To what extent were the Project coordination approaches conducive to the delivery of the Project outputs? Has the communication and outreach of the Project been satisfactory? Did the Project have a sound M&E plan to monitor results and track progress towards achieving Project objectives? | | | |
| Availability and quality of progress and financial reports.  Timeliness and adequacy of reporting provided  Level of discrepancy between planned and utilized financial expenditures  Planned vs. actual funds leveraged  Existence, quality and use of M&E, feedback and dissemination mechanism to share findings, lessons learned and recommendation on effectiveness of project design and implementation. | Project documents  Financial reports  Stakeholders feedback | Desktop review  Stakeholders semi-structured interviews | Document analysis  Thematic analysis of the stakeholder feedback |
| Evaluation Criteria: Sustainability - Evaluation Questions:   * + To what extent are the achieved outputs sustainable? Will the outputs lead to benefits beyond the lifespan of the Project? To what extent has the Project contributed to sustainability of its achievements, by supporting nationally-owned strategic plans, legislative agendas and policies?   + To what extent do national partners have the institutional capacities, including sustainability strategies, in place to sustain the Project results? Are policy and regulatory frameworks in place to support the continuation of benefits for institutional beneficiaries and people in the future?   + Is the Project financially catalytic? To what extent have partners committed to providing continuing support? To what extent do partnerships exist with other national institutions, NGOs, United Nations agencies, the private sector and other development partners to sustain the attained results?   + What are the innovations/ best practices generated by the Project, that need to be further built upon? To what extent has the integration of human rights and gender led to an increase in the likelihood of sustainability of Project results? Does Project have well-planned exit strategies? | | | |
| Coherence of risk management (risk identification and response)  Evidence/Quality of sustainability strategy  Evidence/Quality of steps taken to address sustainability  Degree to which project activities and results have been taken over by local counterparts or institutions/organizations  Elements in place in those different management functions, at appropriate levels (national, regional and local) in terms of adequate structures, strategies, systems, skills, incentives and interrelationships with other key actors  Exit strategy in place and actively operationalisation | Risk management reports  Progress reports  Exit strategy  Workshop reports  Stakeholders feedback  Beneficiaries feedback | Desktop review  Stakeholders semi-structured interviews  Beneficiaries’ surveys | Document analysis  Thematic analysis of the stakeholder feedback  Surveys analysis in excel |
| Evaluation Criteria: Human Rights and Gender Equality   * + To what extent have the Project interventions been inclusive in supporting the most vulnerable and marginalized group in the implementing area?   + To what extent have gender equality and the empowerment of women been mainstreamed in the Project design and implementation? Has the Project had any positive or negative effects on gender equality?   + Could gender mainstreaming have been improved in planning, implementation or follow up? | | | |
| Extent to which vulnerable and marginalized group identified and addressed  Extent to which project products are gender-sensitive  Extent to which project data are gender-disaggregated | Progress reports  Deliverable reports  Workshop reports  Stakeholders feedback  Beneficiaries feedback | Desktop review  Stakeholders semi-structured interviews  Beneficiaries’ surveys | Document analysis  Thematic analysis of the stakeholder feedback  Survey analysis in excel |

# Appendix 5 list of stakeholders interviewed for this evaluation

|  |  |  |
| --- | --- | --- |
| **No.** | **Organization/Institution** | **Name and title of representative** |
| **1.** | UNDP Project Team | Ms Alma Mirvic, POPs Proejct Project Manager |
| **2.** | Ms Marina Mujezinovic, POPs project Field Officer |
| **3.** | Ms Mirnesa Bajramovic, POPs Component Leader |
| **4.** | UNDP senior management | Mrs Steliana Nedera - UNDP Resident Representative in BiH |
| **5.** | Mr. Stephen Kinloch-Pich - UNDP Deputy Resident Representative in BiH |
| **6.** | UNDP Management | Mrs Raduska Cupac  - UNDP Sector Leader, Energy and Environment |
| **7.** | OMORIKA Reciklaza d.o.o (a company involved in green chemistry activity) | Ms. Neda Brestovac, chemical advisor |
| **8.** | University Hospital Center Mostar | Mr Igor Karin, Medical waste department |
| **9.** | Health Center Bijeljina | Ms Ruzica Jelisic, Deputy director |
| **10.** | Poljoprivrednik d.o.o. | Mr Drago Kisic, trainer |
| **11.** | Hospital Sveti Vracevi, Bijeljina | Ms Nada Stancic, Head of Medical waste department |
| **12.** | SIDA | Ms Aisa Bijedic – Programme Officer, Environment and Climate Change |
| **13.** | Indirect Taxation Office in BIH, Headquarters in Banja Luka | Mr Josip Dolusic, Country Representative |
| **14.** | Consortium Center 21 | Ms Sanda Midzic-Kurtagic - Team Leader of Consortium Cener 21 in charge of Green Chemistry component |
| **15.** | Incel Banja Luka | Mr Sasa Panic, Director |
| **16.** | KEMEKO Lukavac | Mr Maid Hadzimujic, director of Kemeko and Senior expert in waste management in the project |
| **17.** | FBiH Ministry of Environment and Tourism (Project Board Member) | Almira Kapetanovic - Head of Department for Air and Climate Change |
| **18.** | Ministry of agriculture RS | Đorđe Glišić - Advisory service Bijeljina |
| **19.** | Department for EIA and Environmental Permitting, RS Ministry of Urban Planning, Construction and Ecology | Ljiljana Stanisljevic - Head of Department and Project Board Member |
| **20.** | Ministry of Foreign Trade and Economic Relations of BiH | Mr Mirza Hujic- Assistant Minister for Environment, Ministry of Foreign Trade and Economic Relations of BiH and Project Board Member |
| **21.** | Project Board Member | Admir Karovic - Senior Associate in Waste Management Sector |
| **22.** | Federation BIH Institute for Agropedology | Marijana Tomic - member of Working group/ legislation |
| **23.** | Ministry for urban planning, civil engineering and ecology - RS | Mrs Svetlana Topic - member of working group/ legislation |
| **24.** | National Focal Point for Stockholm Convention | Mrs. Azra Rogovic-Grubic - Project Board Member |
| **25.** | Ministry for Agriculture, Water Management and Forestry FBiH - | Mrs Jasenka Jahic Working Group for legislation |
| **26.** | BIH state Agency for Crop Protection | Mrs Smiljana Knezevic - member of BIH state working group/ legislation |

# Appendix 6: List of documents reviewed

The following documents have been reviewed during this evaluation:

#### Key project documentation

* Project document
* Project progress reports submitted to the donor
* Project financial delivery report (latest)
* Board/Steering committee documentation (or minutes)
* Minutes of meetings with key stakeholders
* Survey reports; Beneficiaries feedback
* Risk management reports
* Project data base
* Action plans
* Project partnership documents (MoUs, etc)
* The project governance structure (for example a ToR of a steering committee)

#### Project specific documents, information and data to be collected and reviewed

* GAP analysis of the legislation
* Data base design (reporting mechanism proposal for data reporting.)
* selection criteria for the healthcare facilities.
* Questionnaire on types of activities conducted, types and quantities of pesticides used
* training module on the sampling and analysis of POPs and U-POPs
* manual for the Customs for the prevention of illegal import of POPs
* plastic manufacturing companies selection criteria
* environmental audits of plastic companies reports
* List of possible interventions for application of BATs/BEPs in the plastic industry and healthcare facilities
* incentive mechanisms to ensure sustainability and replicability of GC initiative in the manufacturing industry.
* Analysis report of basic questions and shortcomings regarding contaminated areas
* temporary registers of contaminated areas.
* Framework for the implementation of the Stockholm Convention
* Gender analysis report
* Project communication strategy
* Feasibility Study on Implementation of Container Management System in Bosnia and Herzegovina
* A complete Remediation designs for a POPs contaminated site
* Methodology for POPs monitoring and evaluation of results
* Risk assessment report to determine level of risk posed to people and ecosystem in the impact area of the contaminated industrial site
* Research of applicable best practices and lessons learned, especially from the EU countries, skills and competences acquired through the implementation of approved projects
* Inventory report of appliances and equipment in the sector of refrigeration and air-conditioning technology and heat pumps and fire protection systems in Bosnia and Herzegovina
* instruction for waste handling of the potentially infectious waste treatment at home
* Rapid situation assessment report on operational health and safety measures in place by waste management companies
* Localized protocols for treating potentially infectious household waste for waste management companies
* GAP analysis of current legal framework on ODS
* COVID communication strategy with key messages devised and validated by key stakeholders

# Appendix 7 – Interview guides

## Introduction

The Mid-term Evaluation is a planned component of the UNDP project “Environmentally Sound Management of Persistent Organic Pollutants (POPs) in industrial and hazardous waste sectors” project. The objective of the Evaluation is to measure the effectiveness and efficiency of project activities in relationship to the overall project objective, and to make recommendations which could improve the project or help plan similar projects.

The final Evaluation has been initiated by UNDP in order to assess the overall project success, assess whether the agreed outcomes have been achieved, and to produce recommendations on any adjustments needed. Findings of the evaluation will be incorporated as lessons learned and recommendations for design and implementation of future projects.

* Hello, my name is Mohammad Alatoom, I am an international consultant recruited to evaluate the project independently.
* The purpose of the evaluation is to assess the effectiveness and appropriateness of the project to date
* This is NOT about evaluating the performance of individuals involved in project design and/or delivery
* This interview will inform the evaluation by drawing on your experience and perspectives to reflect on the implementation and success of the project to date.
* The information you provide will be analyzed together with other interviews and used to develop the evaluation report.
* You will not be identified by name in the report
* This interview is expected to take about 40-60 minutes. Are you happy to proceed?

## Interview questions

**Introductory question**

Please give your name, your role in the project and a short description of your responsibilities with reference to the project.

**Impacts**

1. In your opinion, what is the most significant accomplishment of the project to date?
2. Which project actions were most effective? Which are less effective?
3. What trends do you foresee in addressing the POPs and broadly hazardous waste management?

**Effectiveness**

1. What factors have contributed to achieving or not achieving intended project outputs and outcomes? What do you consider to be a good/bad practice in this project?
2. What were the challenges in delivering the project activities?
3. How do you assess the project administration and its participatory approach.

**Relevance**

1. In your opinion, to what extent does this project align with the development agenda and national or local priorities?

**Efficiency**

1. Has the project been cost-effective? Are there opportunities to be more cost-effective?

**Sustainability**

1. What would happen to the project output and benefits when the project funding finishes and the project closes?
2. Do you foresee any social, financial or political risks that may jeopardize sustainability of project outputs?
3. In your opinion, what are the next steps? How you would you build on what has been achieved?

**Closing**

1. If you were to design and implement the project again, what would you do differently? Has there been any gaps that you would have hoped to fill in this project?
2. Do you have any further comments or suggestions?

# Appendix 8: Survey design

**Introduction**

Thank you for agreeing to be part of the survey.

The UNDP are undertaking an evaluation of its project titled “Environmentally Sound Management of Persistent Organic Pollutants (POPs) in industrial and hazardous waste sectors”.

The survey, undertaken at half point of the project, aims to understand the appropriateness of the program and whether it met intended beneficiaries’ needs, its effectiveness in supporting communities, its efficiency in meeting these needs, and whether it did so in a sustainable manner.

**The survey should take around 5-10 mins**. The survey will be open from **01 June – 08 June 2022.**

While your participation in the survey would be highly appreciated. All information provided through the survey will be kept confidential and private. Your responses will be clustered and analyzed with other respondents and used to inform an Evaluation Report. Your information will be kept on a secure and confidential space and will be removed once the report is finished.

If you have any questions or concerns regarding this survey, please do not hesitate to get in touch with Gordana Alibasic email: [galibasic9@gmail.com](mailto:galibasic9@gmail.com) and phone number 061 104 500.

Please note:

* This survey is being conducted by an independent evaluator, on behalf of the UNDP.
* The answers you provide are anonymous and will not be used for any purpose other than this research.
* By clicking ‘next’ you are providing consent to participate in this research.

## Survey: beneficiaries (targeted those who have been already engaged from the list in table 5)

Q1: What is the name of your organisation? open text

Q2: Your gender? Male - Female

Q3: How strongly do you agree or disagree with each of the following statements?

Please select one answer on each line

Scale: Strongly agree, Agree, Neither agree nor disagree, Disagree Strongly, disagree, Not sure.

1. The UNDP project provided support relevant to our needs
2. As a result of the UNDP project, there is better understanding of the health impacts of Persistent Organic Pollutants (POPs) and hazardous waste
3. The UNDP project helped to improve our skills to handle hazardous waste at our facilities
4. As a result of the UNDP project support, we are better able to manage hazardous waste (POPs in particular) at our facility
5. As a result of the UNDP project support, we are better able to dispose hazardous waste in a safely manner
6. As a result of the UNDP project support, we were better able to combat the COVID pandemic
7. As a result of the UNDP project support, our staff will be less exposed to the adverse impacts of the hazardous waste
8. As a result of the UNDP project support, there are more people in the community are now aware of the impacts of the hazardous waste
9. As a result of the UNDP project support, our community will be less exposed to the adverse impacts of the hazardous waste
10. As a result of the UNDP project support, we now have stronger legal system to manage the hazardous waste (POPs in particular)
11. As a result of the UNDP project support, we will be better able to safely dispose the hazardous waste
12. The UNDP project management worked collaboratively with us
13. We will continue to have the capacity to manage the hazardous waste at our facilities after the UNDP project ends.

Q4: What challenges you faced in this project?

Q5: What would you have done differently to better improve project support?

Q6: What would you recommend for the next steps to be?

**Thank you**

Thank you for your time, you have completed the survey.

If you have any questions about this research, please contact Gordana Alibasic [galibasic9@gmail.com](mailto:galibasic9@gmail.com) and number 061 104 500

You may now close the survey window.

# Appendix 9: Evaluation Consultant Code of Conduct Agreement Form

**Evaluation Consultant Agreement Form[[5]](#footnote-6)**

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

**Name of Consultant:** Mohammad Alatoom

**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 on *June. 2022.*

Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. The evaluation matrix is a tool that evaluators create as a map and reference in planning and conducting an evaluation. It also serves as a useful tool for summarizing and visually presenting the evaluation design and methodology for discussions with stakeholders. [↑](#footnote-ref-2)
2. A semi-structured interview is a method of research used most often in the social sciences, a semi-structured interview is open, allowing new ideas to be brought up during the interview as a result of what the interviewee says. [↑](#footnote-ref-3)
3. Key beneficiaries includes, but not limited to, hospitals and healthcare facilities, Plastic manufacturing companies, Farmers, Pesticide retailers, Incel contaminated site, Waste operators on waste landfills, POPs inventory sites managers, people working on repairs and replacement of condensers and transformers, [↑](#footnote-ref-4)
4. OECD/DAC Network on Development Evaluation. Better Criteria for Better Evaluation. Revised Evaluation Criteria Definitions and Principles for Use. February 2020. [↑](#footnote-ref-5)
5. www.unevaluation.org/unegcodeofconduct [↑](#footnote-ref-6)