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PROJECT DOCUMENT

Bosnia and Herzegovina

Project Title: Environmentally Sound Management of Persistent Organic Pollutants (POPs) in industrial and hazardous waste sectors

Project Number: BIH10/118429

Implementing Partner: UNDP

Start Date: May, 2019 **End Date:** May, 2023 **LPAC Meeting date:** 22.03.2019

Implementation modality: Direct Implementation Modality (DIM)

Brief Description
The proposed project intends to prevent the release in POPs in the environment through the improvement of health care waste management, implementation of green chemistry initiatives in the industry and agriculture along with destruction of identified POPs waste stockpiles. The following POPs will be targeted by the project: Dioxins (PCDD/F) released by unsafe incineration of medical waste and empty pesticide containers, POPs substances listed under Stockholm Convention (SC) on Persistent Organic Pollutants used in the manufacturing of plastic products, with special reference to plastic use in articles exposed to sources of heat; and polychlorinated biphenyls (PCBs) existing in the dielectric fluid of electrical equipment, and obsolete POPs stockpiles/materials. All 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. The overall objective of the project is to reduce risk for people's health and the environment through the prevention of U-POP releases, shifting from POPs toward non-POPs chemicals in the plastic industry, and sound destruction of at least 50 tons of POPs waste.

Linkage with SDGs: 3,12,17 Linkage with EU accession agenda: EU Chapter 27 - Environment Linkage with UNDP Strategic Plan: Signature solution 2: Strengthen effective, inclusive and accountable governance Development setting: Accelerating structural transformations for sustainable development, especially through innovative solutions that have multiplier effects across the Sustainable Development Goals Output 1.4.1: Solutions scaled up for sustainable management of natural resources, including sustainable commodities and green and inclusive value chains Contributing Outcome (UNDAF/CPD): By 2019, legal and strategic frameworks enhanced and operationalized to ensure

sustainable management of natural, cultural and energy resources By 2019, provision of targeted health and public health planning documents and services, including management of major health risks, and promotion of targeted health seeking behaviours, is enhanced Output (with gender marker): 115254; GEN2

Total resources required:		$ 5,140,746
Total resources allocated:		
	UNDP TRAC:	
	Swedish International Development Cooperation Agency:	$ 5,140,746
	Donor:	
	Government:	
	In-Kind:	
Unfunded:		

Signature:	Agreed by UNDP: Sukhrob Khoshmukhamedov UN Resident Representative a.i.	Date/Month/Year: 29.01.19

List of Abbreviations

AP	Action Programme to combat land degradation and mitigate the effects of drought in Bosnia and Herzegovina
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
EASs	Environmental Approximation strategies of BiH
EC	European Community
EEA	European Environment Agency
ELV	End of Life Vehicles
EMPs	Environmental 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 Organisation

I. DEVELOPMENT CHALLENGE

Wider country context

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 Brčko 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.

In addition to environmental sector, at the State level the Ministry of Foreign Trade and Economic Relations of Bosnia and Herzegovina (MoFTER) is tasked with defining policies, basic principles, coordinating activities and harmonizing plans of the entity authorities and institutions at the international level. Moreover, the Directorate for European Integration within the Council of Ministers of Bosnia and Herzegovina (CoM) also has authority over some environmental issues.

In FBiH, the Ministry of Environment and Tourism oversees strategy and policy, air protection, water and soil conservation, 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.

The two entities often collect and analyse data with different indicators and time sets, which makes reporting for the country severely complicated. This is a problem for any MEA reporting and for climate change where the data on emissions and other pollutants cannot be roughly estimated but need to be as precise as possible.

BiH has been recognised by the European Union (EU) as a "potential candidate country" for accession since the decision of the European Council in Thessaloniki in 2003. In addition, BiH partakes in the Stabilisation and Association Process which leads to the establishment of a contractual relationship between a country and the EU known as the Stabilisation and Association Agreement (SAA) a tool that provides the formal mechanisms and timelines of reforms that will bring BiH closer to EU standards. Bilateral SAA agreement has been signed in 2008, ratified in 2010, and entered into force in 2015. Meanwhile, the trade bilateral relations are regulated by an Interim Agreement.

The country formally applied for the European Union (EU) membership in February 2016, and it remains a potential candidate country until it gets a formal response from the European Union.

Sector-specific analysis

By signing of Stabilisation and Association Agreement, BiH and entities are obliged to do approximation of legislation in line with EU acquis. So far Environmental Approximation Strategies, as national and sun-national long- term strategies for gradual effective alignment of their legislation with acquis, are prepared and adopted.
These strategies should identify key priority areas and objectives to be fulfilled by the dates of accession as well as timetables for further full compliance; ensuring fulfilling obligations is therefore included in the SAA.

Apart from EASs Bih and entities also have adopted some other strategic documents that could serve as reference or baseline to environmental protection required by Stockholm Convention.

In the field of Transport "*BiH Framework transport strategy for period of 2015 – 2030*", among the actions and programmes to be undertaken, sets out that state legislation on vehicle emission and on Environmental Impact Assessment shall be aligned with EU.

In the field of Energy, The National Emission Reduction Plan (NERP) of Bosnia and Herzegovina (BiH) is related to the air emission reductions from large combustion plants (LCP) in Bosnia and Herzegovina. Share of producing and using renewable electrical energy is planned to be 40% by 2020[1].

In the field of Waste, 10-year Federal environmental protection strategy addresses waste management in its integral part and as well. Currently the Waste Management Strategy of FBiH 2008-2018 was expired as well as Federal Plan of waste Management. In Republika Srpska it 10 year strategy of waste management.

In the field of Agriculture, BiH Strategic Plan for Rural Development (Strategic Plan) adopted for the period 2018 to 2021 encompasses a sustainable concept of agricultural production and the controlled use of pesticides, in the goal of protection of human health and environment.
In the fields of Health, entity public health strategies include monitoring of biological, microbiological, chemical and radiological state of water, air, goods and environmental monitoring in terms of health.

Agriculture

Generally, agro-environmental measures are not conducted in BiH, and there are numerous agro-environmental issues in BiH. The issues are mainly related to inadequate and uncontrolled use of pesticides, inadequate management of soil fertility and use of fertilizers. Furthermore, environmental management is inadequate in livestock production at medium and large cattle farms and there is still a low level of environmental awareness among the agricultural producers. Agricultural advisors need training also on environmental impacts of farm production and EU regulations as well.
POPs pesticides have not been produced in BiH. Majority of POPs pesticides were banned 40 years ago, while *lindan* and *endosulfan* active substance pesticides were banned since 1 October 2008[2]. According to the applicable legislation, no future production or use of POPs pesticides is envisaged in Bosnia and Herzegovina. Based on the Law on Phytopharmaceutical Agents of BiH and on the proposal of the Plant Health Protection Administration of BiH, the Council of Ministers of BiH also adopts the List of Active Substances permitted for use in phytopharmaceutical agents. This list of active substances which can be used in PPP (Phytopharmaceutical products) on the territory of B&H is published by the Administration in the "Official Gazette of B&H", and the amendments to it are published in accordance with EU standards.
The last issued list was published in the Official Gazette of BiH 20/13 and there was not one substance on the list that was listed in the annexes of the Stockholm Convention.

However, plant protection products formulated based on POPs pesticides that are not on the positive list of Annex I of the EU under Regulation (EC) No. 1107/2009, and therefore these agents may not obtain permit for import. The existing customs tariffs are not adequate for detailed monitoring of imports of POPs pesticides. Consequently, the Indirect Taxation Authority of BiH (Customs Sector) does not have an established special tariff for all pesticides that are listed on the Stockholm Convention.

There is lack of adequate legislation in the field of POPs pesticides and discrepancy in the adoption of laws and bylaws in FBiH, RS and BD. In FBiH and BD the Law on Chemicals or the regulations which restrict or prohibit the manufacture, trade and use of certain chemicals, including POPs, are still not adopted. Furthermore, there is lack of regulations related to monitoring concentrations of POPs pesticides in the environment. And consequently, to inadequate monitoring of POPs pesticides, results of the contents of

1 Action Plan for Using Renewable Energy in BIiH, http://www.mvteo.gov.ba/Content/Read/energetika-strateski-dokumenti
2 Official Gazette of BiH, no. 55/08 of 8 July 2008.

POPs pesticides in samples of food, water and soil from the territory of BiH, are very few or not publicly available.

Energy

Within the energy production sector, the largest sources of PCDD/PCDF emissions into the environment are thermal power plants[3] and heating plants, followed by combustion of natural gas and household furnaces.

Total generation of thermal energy in Bosnia and Herzegovina in 2013 was 5.722 TJ, of which 61,2% was generated in the heating plants, 25,6% in thermal power plants, and 13,2% was generated in industrial energy plants. Final thermal energy consumption in 2013, was divided among households with 77%, industry and other consumers with 23%.

In 2012 the total amount of natural gas in BiH amounted to 8,967,644.31 TJ/a, out of which 45.1% was spent in the industrial sector, 32.9% in households and 22% in heating plants.

The reports about PCDD/PCDF emissions are not integral part of regular annual reports about air emission of pollutants from PRTR. Estimates of PCDD/PCDF releases into the environment in 2012 from heating and power generation (combustion) were 61 (gTEQ/a[4]) into air and 1,9 gTEQ/a[5] as Residue.

Transport

POPs emissions from transport (road and off-road vehicles) result from incomplete combustion of fuel in engines. Levels of PCDD/PCDF and other unintentional POPs in exhaust gases from vehicles depend on many factors including the type of engine, its maintenance condition and age, technologies of emission reduction applied (catalysts), type and quality of fuel, driving conditions, ambient conditions etc. The assessment of the impacts of these factors on releases is very important, especially when considering the growth in the number of cars.

In 2017[6], the total number of registered road motor vehicles was 981609. Out of the total number of registered road vehicles in 2017, 88% were passenger motor vehicles, 8% cargo vehicles and 1% all other categories of vehicles. Out of the registered road motor vehicles even 80% were cars older more than 10 years. Broken down by type of power generation, 69 % of passenger motor vehicles used diesel and 27 % petrol as fuel and all other types 4%.

In 2012 the diesel 482,802 t and gasoline 36,550 t were sold in retail trade. Estimates of PCDD/ PCDF annual releases, calculated for 482,802 t and gasoline 36,550 t sold in retail trade in 2012, into the environment from transport were 0.050 g TEQ/a into air.

The end-of-life management of the transport sector is highly relevant for the recovery of materials and for managing pollutants.

Until introducing rules for the waste streams which have not been involved in this scheme of system operators so far: batteries, used tyres, sludge, end-of-life vehicles these waste streams will end up in dumpsites and landfills, as is currently the almost exclusive practice in their treatment throughout the whole territory of Bosnia and Herzegovina.

Industry

The Stockholm convention on persistent organic pollutants (2001) listed the 4 major sources of unintentional production of POP's: waste incinerators, production of pulp using elemental chlorine or chemicals, thermal processes in metallurgical industry and cement kilns. All these 4 sources are present in industry of BiH. The

[3] According to National Emission Reduction Plan (NERP) there are presently four thermal power plants with nine large combustion plant units and three industrial large combustion plants in Bosnia and Herzegovina that are subject to the LCPD 2001/80/EC relating to the limitation of emission into the air from large combustion plants and the IED 2010/75/EU on industrial emissions requirements for the reduction of emission of pollutants.

[4] An annual emission of PCDD/PCDF is expressed in grams of the toxic equivalent I-TEQ per year.

[5] An annual emission of PCDD/PCDF is expressed in grams of the toxic equivalent I-TEQ per year.

[6] http://www.bhas.ba/saopstenja/2018/TRA_06_2017_Y1_0_BS.pdf

largest source of PCDD/PCDF emissions is the production of iron, followed by coke and aluminium production.

The category of production of mineral products in terms of contributors to emissions of PCDD/PCDF refers to the production processes at high temperatures, such as: cement, lime, brick, glass, ceramics and asphalt.

This source group addresses chemicals and consumer goods that are associated with potential formation and release of PCDD/PCDF during their production and/or use. Source categories are: Pulp and Paper Production, Petroleum Production, Textile Production, Leather Refining and Chlorinated Chemicals.

Data on the latest (Chlorine compounds and elemental chlorine) are not mentioned either.

Based on data from NIP, total emissions (gTEq/a) of PCDD/PCDF releases into the environment in BiH for the year 2012 is given in Table 2.

*Table 1 - **Total emissions (gTEq/a) of PCDD/PCDF releases into the environment in BiH for the year 2012***[7]

Group	Source Group	Air	Water	Land	Product	Residue
1	Waste Incineration	0.1	0	0	0	0
2	Ferrous and Non-ferrous Metal Production	27.6	0	0	0	101.0
3	Heat and Power Generation	61.0	0.0	0	0	1,9
4	Production of Mineral Products	4.3	0	0	0	0
5	Transportation	0	0	0	0	0
6	Open Burning Processes	0.4	0	0.1	0	0
7	Waste Disposal	0	0.1	0	0	14.7
8	Production and Use of Chemicals	0.1	0.3	0.0	1.8	0.3
9	Miscellaneous	0	0	0	0	0.1
10	Potential hot spots					
	TOTAL	93.5	0.5	0.1	1.8	118.2
	GRAND TOTAL	214.1				

The most significant routes of PCDD/PCDF release is to residue/waste (55.23%), followed by air emissions (43.69%), and the rest (1.08%) is incorporated in products (during the production of chemicals and consumer goods) and deposited in water and soil.

Further development of the industrial sector requires additional capital investment in modernization and new technologies in order to upgrade the quality of outputs and to accomplish the world standards.

Figure 1 presents geographical distribution of industrial facilities identified as the potential hotspots according to NIP.

[7] The National Implementation Plan (NIP) For Stockholm Convention in BiH, July 2015, Table: "Total estimates of PCDD/PCDF releases into the environment", page.166

Figure 1 - Identified contaminated areas and hot-spots in BiH according to NIP

Waste management

According to the approved amendment of the Law on Waste Management in FBiH , as of 14 June 2017 similar rules will apply for the other specific waste streams which have not been involved in this scheme so far: batteries, used tires, construction and demolition waste, sludge, end-of-life vehicles, used oil, medical waste, animal waste, waste that contains PCBs or asbestos, and waste from the production of titan-dioxide. The detailed rules will be defined within one year of the adoption of the amendments

The predominant method for waste disposal in Bosnia and Herzegovina is landfilling. According to the Agency for Statistics of Bosnia and Herzegovina, between 2011 and 2015, the rate of waste permanently disposed of in landfills varied between 67 per cent and 79 per cent.

Open burning processes such as Biomass burning, Forest fires, Waste burning, and accidental fires are also the source group of *dioxins* and *furans*. In BiH so far there are only data related to forest fires on areas burnt and the amount of wood burnt e.g. in 2012 36,981ha were burnt causing 406,791 t of burned forests.

The results of research conducted by the Institute of Public Health of the Federation of Bosnia and Herzegovina in 2011–2012 showed that 55 per cent of potentially infectious waste, 23 per cent of chemical waste and 20 per cent of pharmaceutical waste from health institutions was disposed of in municipal landfills.

Health

Within the Department for Labour, Employment, Health, Social Protection and Pension of BiH, health sector issues are under the responsibility of the Office for Health, Social Protection and Pension undertaking co-ordination with entities and other bodies on provision of data and information on fulfilling international obligation in the field of health and drafting and monitor regulations.

The health care system in FBiH is decentralised with most competencies (functions and responsibilities) allocated to the cantons. While the MoH FBiH has the functions of formulating health policy and drafting

laws, these functions are doubled by the cantons. The health care system in RS is centralised with the overall power concentrated within the Ministry of Health and Social Welfare (MoH), the Public Health Institute (PHI), and the Health Insurance Fund (HIF).

Public Health Institutes are established at the level of entity and cantonal level and they are supposed to be research and educational institution in the field of public health. Its functions also include health promotion and monitoring of the health status of the population. In BD the Department of Health and Other Services has the overall responsibility for the provision and the management of primary health care, hospital health care and public health activities.

Pursuant the laws on health care to the Public Health Institute of FBiH and the Public Health Institute of RS are required to, inter alia, examine, monitor, analyse and evaluate the impact of environmental factors on human health, and to propose measures to prevent their adverse effects and participate in the implementation of such measures. Based on the laws on health records, analytical laboratories in the public and private sector that can monitor various toxic substances in environmental media, including POPs, need to report to the Public Health Institute of FBiH and the Public Health Institute of RS on results of tests and determined values. Public Health Institute of FBiH and the Public Health Institute of RS should publish the results in annual publications on the health status of the population in FBiH and RS. Pursuant to corresponding regulation the general objectives of the Food Safety Agency of BiH include the determination of the amounts and trends of pollutants, additives, nutrients, GMOs, microbiological criteria and other ingredients in the food placed on the market of BiH, as well as the assessment of the intake of the ingredients and substances defined in the Regulation into the human organism. During the inventory development, the Environment, Health, Research and Development Group identified a lack of a whole range of relevant data on the content of certain POPs in the air, surface and ground water, food and drinking water, which represents the starting point for risk assessment.

Target groups and their specific needs

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, Republika Srpska 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.

Table 1 - Institutions relevant for the implementation of the Stockholm Convention's obligations in BiH

Sector	**Target groups at all government levels**								
Ministry of Foreign Trade and Economic Relations of BiH		***Focal Point on behalf of Bosnia and Herzegovina to coordinate cooperation with international structures and organs of the Stockholm Convention, and institutions in BiH for the implementation of the Stockholm Convention***							
Life-cycle phases		**Trade**	**Production**	**Use**	**Transport**	**Unintentional production**	**Import/export**	**Waste disposal**	**Inspection**
ENVIRONMENTAL PROTECTION	Federal Ministry of Environment and Tourism	x	x	x		x	x	x	
	Ministry of Spatial Planning, Civil Engineering and Ecology of RS	x	x	x		x	x	x	
	Department of BD Government for Spatial Planning and Property Affairs	x	x	x		x	x	x	
	Federal Hydrometeorological Institute		x	x		x		x	
	Republic Hydrometeorological Institute		x	x		x		x	
	Environmental Fund of FBiH							x	
	Environmental Protection and Energy Efficiency Fund of RS							x	
	Cantonal ministries in FBiH responsible for environmental protection	x	x	x		x	x	x	
HEALTH PROTECTION AND MANAGEMENT OF CHEMICALS	Food Safety Agency of BiH			x					
	Agency for Medicinal Products and Medicinal Devices of BiH			x			x		
	Ministry of Civil Affairs of BiH	*The Ministry of Civil Affairs of BiH is responsible for carrying out duties and tasks which are within the competence of BiH relating to defining the basic principles of coordination of activities, harmonization of the plans of entity-level authorities and defining an international strategy in the fields of health, geodetic, geological and meteorological affairs. This Ministry is also the coordinating institution for the field of chemicals, but solely in the field of health, i.e. protection of human and animal health.*							
	Federal Ministry of Health	x	x	x					
	Public Health Institute of Federation of BiH								
	Ministry of Health and Social Welfare of RS	x	x	x			x		
	Public Health Institute of Republika Srpska								
	BD Government Department for Health and Other Services	x	x	x				x	
	Cantonal Public Health Institutes								
	Cantonal Ministries for Health								
PLANNING OF TRADE	Federal Ministry of Trade	x							
	Ministry of Trade and Tourism of RS	x							
	Department of BD Government for Economic Development, Sports and Culture	x							
PLANNING OF TRANSPORT	Ministry of Communications and Transport of BiH					x			
	Federal Ministry of Transport and Communications					x			

	Federal Ministry of Interior					x			
	Ministry of Transport and Communication of RS					x			
	Ministry of Internal Affairs of RS					x			
	Department of the Government of BD for Public Affairs					x			
AGRICULTURE	Administration of Bosnia and Herzegovina for Plant Health Protection	x	x	x			x		
	Federal Ministry of Agriculture, Forestry and Water Management	x	x	x			x	x	x
	Ministry of Agriculture, Forestry and Water Management of RS	x	x	x			x	x	x
	Department of BD Government for Agriculture, Forestry and Water Management	x	x	x			x	x	x
LAND AND WATER MANAGEMENT	Institute of Agriculture of RS			x			x		
	Federal Agropedology Institute			x			x		
	Agency for the Water Area of the Adriatic Sea			x					
	Agency for the Water Area of the Sava River			x					
	Public Institution "Vode Srpske"			x					
OCCUPATIONAL HEALTH AND SAFETY	Federal Ministry of Labour and Social Policy		x	x		x		x	
	Ministry of Labour, War Veterans and Disabled Persons' Protection	x	x		x		x	x	x
	Department of Education of the Government of BD	x	x		x		x	x	x
INDUSTRY AND MINING	Federal Ministry of Energy, Mining and Industry		x	x					
	Ministry of Industry, Energy and Mining of RS		x	x					
	Department of BD Government for Economic Development, Sports and Culture		x	x					
CONTROLS AT BORDER CROSSINGS	Ministry of Security of BiH					x			x
	Indirect Taxation Authority – Customs Division					x			x
	Council of Ministers of BiH					x			
INSPECTION	Federal Administration for Inspection Affairs								x
	Republic Administration for Inspection Affairs of RS								x
	Inspectorate of BD								x

In addition to governmental and public institutions, target groups are also including different organizations and companies such as:

- hospitals and healthcare facilities;
- plastic manufacturing companies;
- importers and exporters of pesticides, electronics, consumer goods;
- manufacturers of chemicals;
- metallurgical industry and thermal power plants.

Human health

They can enter the environment after an accident, release from waste disposal sites, use in agriculture and forestry or air transmission to remote areas where they have never been used. Their main source for most people today is consumption of foods contaminated with residues of these pesticides. The most important

sources are fishes, particularly the ones caught in sports fishing, then meat, poultry and eggs. Although the legal use of most of the mentioned substances has been completely abandoned, exposure may occur either through an illegal manipulation of the remaining pesticides or the preparations containing DDT the application of which is allowed in specific cases. Some of those insecticides were used to kill insects, ants and termites in stables and houses. Individuals living in or near such infected buildings could be exposed to the effects of organochlorine pesticides even years after their use. Special case includes anti-ectoparasitic agents containing lindane, used for treatment of humans and cattle and had been legally used in Bosnia and Herzegovina until 2003.

The data on the toxicity of organochlorine pesticides and their impact on human health can be collected by studying occupational poisonings of persons working with those substances or by epidemiological studies or through experiments on animals. These experiments still represent the most important source of all scientific data, particularly when it comes to the studying of action mechanisms, and long-term examination of carcinogenic and genotoxic potential of these substances.

Owing to their broad application and regardless that they are considerably less in use today, PCBs can be found in various places in the environment and in various foods. An additional contribution to this is a fact that PCBs can emerge unintentionally and that, owing to its moderate volatility, they can be transmitted through the air to remote areas where they have never been used. People can be exposed to PCBs in the workplace or accidentally, in the contact with contaminated environment and intake of foods containing PCBs.

Accidental exposure to PCB from the environment could come from leaking oils from old and discarded transformers, unsanitary disposal of waste, contaminated soil and water, and because of incineration of various materials whose incomplete combustion may generate PCBs (Dyke et al., 2003).

For most of other people, who are not occupationally exposed to PCB, and for those who do not live near a waste disposal site, the most important PCB sources are foods. In this case, fish is the most important, specifically fishes caught through sports fishing in contaminated rivers and lakes. Although the products of animal origin are the main sources of PCB ingested through food, the cases of contaminated oil that can be used for human or animal consumption must not be disregarded, which is a way for PCBs to enter the human body through the food chain.

Unlike industrially produced PCBs that can still be found in use in some places, chlorinated dibenzo-p-dioxins (CDD) and chlorinated dibenzofurans (CDF) are undesired by-products. At first it was thought that their origin comes from a synthesis of some herbicides, derivatives of phenoxy carboxylic acids, but it is known today that a number of syntheses and sources can generate these compounds and their release into the environment. They were discovered in the emissions from incinerators of municipal waste (Olie K et al. 1977), although it was not known whether the emissions originated from uncombusted CDD and CDF from the fuel or from chlorinated organic precursors or it was a de novo synthesis. It is regarded today that CDD and CDF form during the cooling of smokes billowing from burn pits in incineration plants, at a temperature of 300 oC. Various mechanisms in which metal traces can serve as important catalysts have been proposed, and the chlorine sources for these syntheses can be organic and inorganic. CDD and CDF appear during the combustion of a fuel containing traces of chlorine, and as well during incineration of chemical or medical waste, and sewage sludge (USEPA 2000). These findings show that in fact any combustion process involving chlorine can be a source of CDD and CDF.

Lessons learnt from previous experiences

As per the National Implementation Plan for the Stockholm Convention in BiH (NIP BiH), BiH is in need for harmonisation of the regulatory system relevant for chemicals management. There are gaps in the level of implementation of Persistent Organic Pollutants (POPs) regulation and inconsistencies amongst two entities need to be addressed. Furthermore, the lack of organized flow of information concern main economic sectors relevant to previous use of POPs, including the existence of POPs stockpiles (PCB, pesticides) in the country, amount and disposal capacity for the main category of hazardous waste.

Preliminary inventory of POPs (from NIP) pesticides showed that in BiH there are no stockpiles of POPs pesticides. However, packaging disposal of POPs pesticides, particularly of endosulfan and lindane, was dealt

with in an uncontrolled and disorganized manner, because in BiH there was no organized way for disposing of packaging of hazardous chemicals and packaging waste.

Using the lessons learned from the previously implemented projects, adopted strategies (at all government levels, as presented earlier in this section), legal framework, Multilateral Environmental Agreements (MEAs) and researches, the project implementing team will generate relevant data and information to address current issues within the sector showcase them adequately within the implementation process. Local and international experts working worldwide within the similar sector and/or similar UNDP/GEF projects implemented in other countries, will be invited to share their knowledge and experience, alongside the best practices primarily from the region and worldwide.

In terms of finding ways to capture knowledge and improve chances of it being utilized in post-project lifetimes, all information will be placed on UNDP web site and linked to the Stockholm Convention's focal point's web-site.

The website will be kept updated with all the relevant technical, regulatory and administrative information, as well as with all the training and awareness materials developed, to enhance the opportunity for replication of project results throughout the country and beyond. This will add to the on-site communication activities related to awareness raising events, workshops, broadcasting, etc. It will also act as a platform for holding webinars and conferences on specific project activities, like POPs in plastic, safe management of pesticide containers, environmental monitoring, environmentally safe management of healthcare waste etc., if applicable.

During the project, social media will be used to augment the outreach, and periodic bulletins summarizing project achievements, findings and the like, and the associated reports, tools or manuals generated, will be posted for public consumption.

II. STRATEGY

1. Impact hypothesis/theory of change

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

The following POPs will be targeted by the project:

- Dioxins (PCDD/F) released by unsafe incineration of medical waste 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.

One of the main sources of PCDD/F is indeed the uncontrolled combustion of chlorinated plastic (PVC), which is a material of widespread use in healthcare due to its very good technical properties. Smaller amounts of PCDD/Fs may be released also from the uncontrolled combustion of other waste, like other plastics material, organics, etc. The use of substandard incinerators is a common issue for the disposal of healthcare waste as these wastes, due to their infectious potential, cannot be stored for more than few hours. Therefore, the proper segregation of healthcare waste to prevent plastic from being burnt, the adoption of safer and economical pre-treatment processes (non-combustion disinfection, shredding) have both global (prevention of the release of unintentional POPs - U-POPs) and local (better waste management, reduced risk of infection and intoxication by harmful fumes released in the vicinity of the hospitals by substandard incineration) benefits.

As far as empty containers of pesticides, this is unfortunately a common issue in Bosnia and Herzegovina where this type of waste is still managed improperly. Pesticide containers are often burned along with common agricultural residues out in the field. Although the amount of PCDD/F which may be released by these containers is low, the presence of pesticide residues in these containers, including chlorinated pesticides, will unavoidable result in the generation and release of U-POPs.

PBDEs and hexabromobiphenyl (HBB) were added to the list of the SC by the Conference of the Parties in 2009. During development of the preliminary inventory, the National Implementation Plan (NIP), a PBDEs/ PFOS (perfluorooctane sulfonic acid) Inventory Group concluded that chemicals with the collective term PBDEs (Penta PBDE and Octa PBDE) were most often used for treatment of polyurethane foam used in the transport sector, therefore, their recycling, dumping or burning may cause the release of these POPs in the environment.

Moreover, the manufacturing of plastic articles may require the use of flame retardants as an additive to reduce the risk of fire. Some of these flame retardants contain compounds with POPs characteristics, like the deca-PBDE, which has been recently considered by the SC`s POP review committee, as fulfilling the criteria set by Annex D of the SC.

Based on their potential for bio-accumulation, the potential long-range environmental transport, persistence and toxicity, SCCPs have been recently considered by the SC's POP review committee, as fulfilling the criteria set by Annex D of the Stockholm convention. SCCPs are used as pressure lubricants, as flame retardants in plastics and textiles, as plasticizer for polyvinyl chloride in polyethylene sealants, and in detergents. There is an emerging plastic manufacturing industry in Bosnia and Herzegovina, where awareness of the existence of alternatives to POPs chemicals in the plastic manufacturing is low.

In addition to around 170 tons of equipment with "suspected presence of PCB" were reported in the NIP but not yet tested or precisely quantified amount of POPs stockpiles, not only limited to obsolete electrical

equipment containing PCBs, is likely scattered in the country. The number of industrial sites abandoned after the independence declaration and the subsequent war is still not fully known, and there is the need to undertake a detailed inventory of these sites.

The logic behind this intervention 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 environmentally sound management of health care waste in 10 pilot health care facilities, 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 DOCUMENT

Bosnia and Herzegovina

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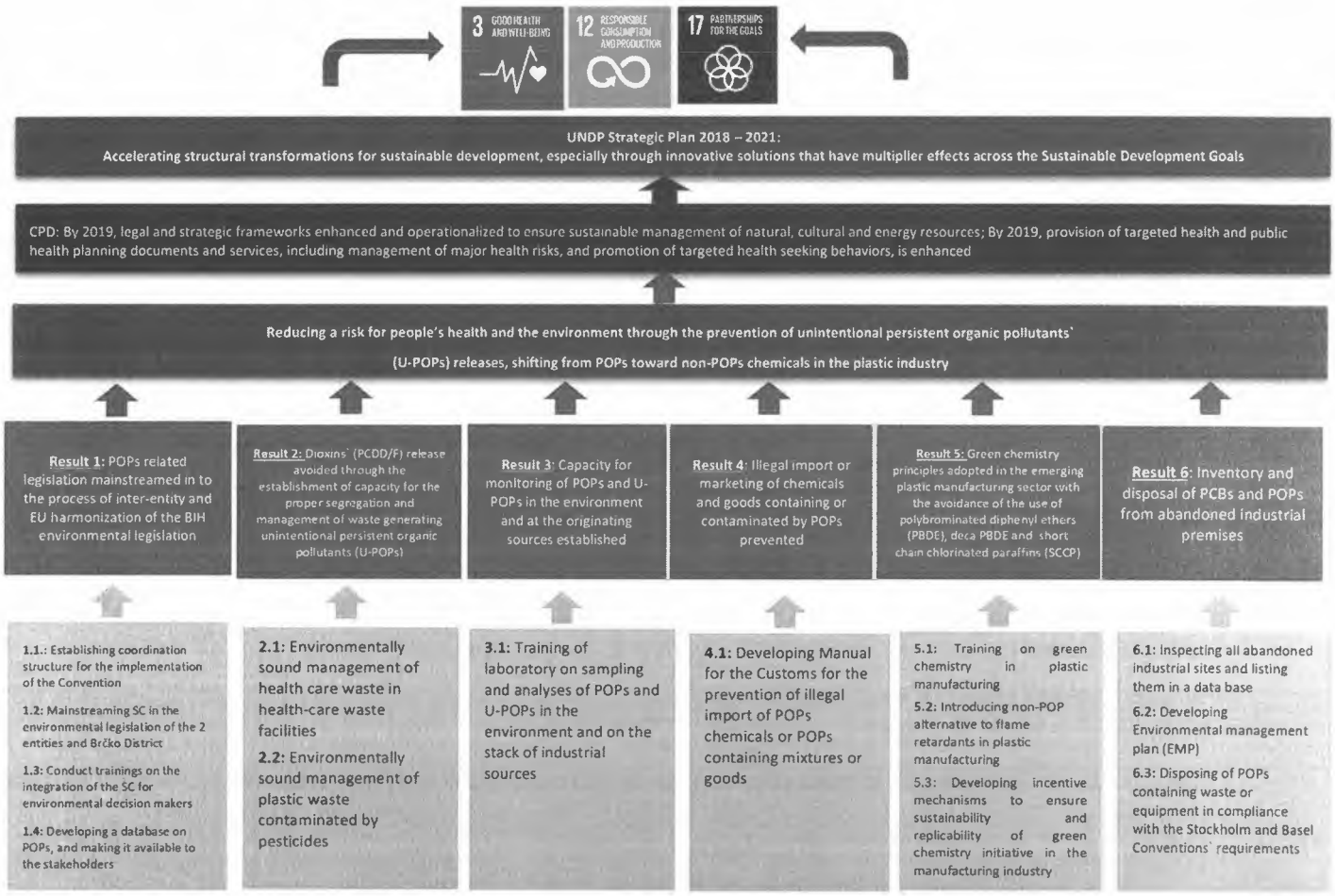

Relevance to international and BiH policies/strategies and frameworks

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 listed below.

The **Stockholm Convention on POPs** was adopted on 22 May 2001, and entered into force on 17 May 2004, after 50 countries had ratified it. 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. The Convention regulates chemicals (pesticides and industrial chemicals) and unintentionally produced chemicals through industrial processes.

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. The Plant Health Protection Administration of BiH has been appointed, as a state level institution, for the coordination of the Convention's implementation in BiH.

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, and specifically to prevent transfer of hazardous waste from developed to less developed countries (LDCs) in order to protect human health and the environment against the adverse effects of the generation and poor management of hazardous and other wastes. According to this Convention, import and export of wastes are allowed only where it is perceived to be in accordance with the principles of environmentally sound management. 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. Under the Convention, hazardous waste can be exported only to countries that have not banned the import of hazardous waste with the written consent of the competent institution of the importing country.

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).** UNECE member States have been working successfully to reduce air pollution in the region through the Convention. Eight protocols identify specific measures to be taken by Parties to cut their emissions. The Convention provides access to emission, measurement and modelling data and information on the effects of air pollution on ecosystems, health, crops and materials.

Following recommendations set out in the NIP BiH, in order to ensure the implementation of the Stockholm Convention through synergy with the Rotterdam and Basel Convention, and the successful implementation of the NIP, it is necessary to establish an effective and reliable mechanism of coordination between MoFTER, as the focal point for the coordination of cooperation with international structures and organs of the Stockholm Convention, and the institutions responsible for the implementation of the Convention in the

entities. This coordination mechanism will contribute to the obligation of the entities to provide all necessary assistance to the Council of Ministers of BiH in order to enable country to fulfil international obligations defined by the Stockholm Convention.

The coordination mechanism needs to define, in addition, the establishment of the reporting system in BiH regarding the implementation of the Stockholm Convention (the procedure of reporting to National Focal Point (NFP)), the method of collection, integration, processing and exchange of information on POPs in BiH.

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 – horizontal, 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 107 of SAA the cooperation between BiH and EU shall be based on the Treaty establishing the Energy Community and shall be developed with a view to the gradual integration of BiH into Europe's energy markets. 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 the only and exclusive EU partner in the approximation process. From that point of view, 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) of Bosnia and Herzegovina, 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 will refer to the EAS at all levels and use it as one of the baselines for identifying shortcomings and necessary improvements. Under the Component 1 the project will endeavour to establish 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. Based on the EU model the project will also revise and check the POPs regulations for necessary amendments. Based on the NIP outcomes alongside the EU rules and regulations the project will carry out the training(s) on the integration of the SC with the EU and BiH legislation on chemical and waste for environmental decision makers.

Information gap, recognized in many documents, strategies, initiatives and researches will be one of the starting points for regulatory process in terms of establishment of a software/ database on POPs, containing also information on new POPs.

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.

Linkage with domestic strategies and priorities

The implementation of Project Activities will contribute to reach objectives established by the strategies and action plans at all levels relevant to chemicals and waste sectors.

Although in BiH there is no single strategy for environmental protection at the state level, there are several strategic documents governing environmental protection and sustainable development.

National Implementation Plan for the Stockholm Convention in BiH (NIP) was developed in accordance with the "Guidance for developing a national implementation plan for the Stockholm Convention on POPs" (SSC, UNEP, UNIDO, UNITAR, 2012), and provides an assessment of the current inventory and legal, institutional, technical aspects of Persistent Organic Pollutants (POPs) management. NIP BiH 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. Among those, a Strategy and Action Plan elements for the Identification of contaminated sites and remediation in an environmentally sound manner were developed indicating main objectives and activities for the realisation. National reports of BiH under the Stockholm Convention, Electronic Reporting System for 2014 and for 2018. The latter report briefly informs the Secretariat on the current process of establishing coordination mechanism in Chemical sector. In this regard the Working group has been established, and Protocol on cooperation between all relevant institution in the Chemical Sector was drafted in lieu with the EAS strategies at the state, entities' level and Brčko district level.

National Action Plan on Environmental Protection in BiH - NEAP, adopted in 2003, defines the priority areas and the main objectives of environmental policy, and determines measures to achieve the stated goals. The main objective of the NEAP is to establish an integrated environmental protection system in BiH on the principles of sustainable development. NEAP comprehensively creates and structures the processes for the protection of the environment and provides guidelines for starting a new practice in the overall development of BiH.

In accordance with the Law on Environmental Protection (Official Gazette of FBiH, no. 33/03 and 38/09), the Environmental Protection Strategy of FBiH was enacted, with an Action Plan for the period 2008-2018.

State of the Environment Report (2012) (SoER), the first Report at the State level for the environmental sector, prepared with support from the Millennium Development Goals Fund and UN Environment, collected all available data on the state of environmental media, analysed it, done the researches of the current society response and offered adequate solutions that will help in preservation of natural treasure of BiH.

SoER refers to the EU White Paper – Strategy for a Future Chemicals Policy whereas it states that the world production of artificial chemicals increased from 1 million to 400 million between 1930 and 2000. Between 1930 and 2000, world production of artificial chemicals increased from 1 million to 400 million tons each year. Although the social benefit of certain chemicals cannot be denied, for instance their use in healthcare, some chemicals unfortunately have harmful effects on wildlife and people, and their long-term impacts are still unknown. Increasing number of scientific researches on chemical contamination of the environment has a sobering effect. Regardless of the region scientists focus on, tropical areas, ocean systems, industrial areas or Arctic, they find traces of toxic chemicals.

Action Programme to combat land degradation and mitigate the effects of drought in Bosnia and Herzegovina (2016) (AP), constitutes a key instrument for implementation of the UN Convention to Combat Desertification. The document was developed through a participatory approach involving various stakeholders, including also relevant non-governmental organizations, academic institutions and local communities. Furthermore, AP identifies the factors that contribute to land degradation as well as practical measures needed to curb it and mitigate the effects of drought while prioritizing protection of land in intensive plant production against the effects of high-tech machinery (mechanization) (land compaction and deterioration of physical soil properties); chemicalization (soil contamination with chemicals, pesticides, mineral fertilizers, etc.);

The Environmental Protection Strategy of FBiH is primarily based on the principle of sustainable development and the guidelines of the acquis of the European Union with the aim of stabilization and accession to the EU. During the drafting of this strategic document a high degree of coordination and cooperation with other relevant sectors in the Federation of Bosnia and Herzegovina through inter-sectoral councils was ensured.

In the field of water, in December 2011, pursuant to the provisions of Article 24 Law on Water (Official Gazette of FBiH, No. 70/06), **Water Management Strategy of FBiH** for the period until 2022 was adopted. Activities are carried out to develop management plans, assessment of compliance of BiH wide legislation with EU legislation and harmonization of regulations and implementation of institutional projects and water infrastructure projects.

Agricultural Land Management Strategy of FBiH was adopted in 2012 and includes measures, activities and execution time, and institutions for its implementation. With the aim of purposeful use of agricultural land, it recommends purposeful and rational use of this resource and its protection. Land management is based on an analysis of the legislation with the European strategy for soil protection with special emphasis on the relationship between agriculture and the Water Framework Directive.

Nature Protection Strategy (2011) of Republika Srpska establishes actions, plans, methods, and a series of measures to strengthen the awareness of the need to protect nature of RS, with concrete measures to improve the situation in the field of nature protection, represents an initial and very important step in the implementation of strategic objectives, and basically the aim is to promote an integrated approach to the preservation, promotion and use of space of RS, in accordance with the available natural capacities, adapting the concept of sustainable development and the association and accession of BiH to EU.

Chemical Safety Strategy of RS from 2012 to 2016 is a document that includes objectives and measures for the protection of the environment in terms of ensuring comprehensive security of management of chemicals in RS. The aim of this strategy is efficient and transparent implementation of policies in the field of the safe use of chemicals, protection of public health and environmental protection through identification of key strategic objectives and measures for the establishment of a rational, efficient, dynamic and integrated system of chemical security. When developing this Strategy, the basic principles and recommendations of the International Program Chemical security of (IPCS), the Intergovernmental Forum on Chemical safety (IFCS) and Strategic Approach to international chemicals management (SAICM) were respected.

Air Protection Strategy (2011) of Republika Srpska is the strategic basis for determining the policies and progress in the management of air quality in the RS and the determination of regional policy, the successful

implementation of the restructuring of the sector of environmental protection, ensuring long-term economic and energy development with coordinated monitoring and management of air quality, optimal use of local energy sources and energy management in an environmentally sound manner, achieving the world's air quality standards, etc. This document is also the basis for the report and efficient fulfilment of other commitments in connection with the United Nations Framework Convention on Climate Change, the Kyoto Protocol and post-Kyoto actions.

The Development Strategy of Brčko District for the period 2008-2017 represents a document with five strategic goals among which is the strategic objective of ecological development: the protection and improvement of the environment.

Environmental protection strategy of Brčko District for the period 2016-2026 proposes measure 6.1. Adoption of Law on special requirements concerning various types of waste from agriculture and waste that may be used in agricultural production and recommends adopting special regulations, in accordance to Waste Management Act: on special requirements concerning biodegradable agricultural waste, on conditions and requirements for usage of sewer sludge in agriculture, on conditions and requirements for disposal of animal by-products, on conditions and requirements for disposal of waste generated production and usage of chemicals in agriculture.

Furthermore, the Assessment of Sustainable Development in BiH was prepared for the summit in Johannesburg in 2002, Solid Waste Management Strategy (2002), UNECE EPR1 - The first review of the state of the environment (2004), the First national report on the implementation of the UN Convention for the combating desertification / land degradation in Bosnia and Herzegovina (2007), Medium-term strategy to combat poverty, the First National Report of BiH in accordance with the UN Framework Convention on Climate Change, I, II , III and IV Report of BiH to the UN Convention on Biological Diversity (2005-2010), Biodiversity Strategy and Action Plan (2010), UNECE EPR2 - Second review of the state of the environment (2011).

Linkage with the Agenda 2030 and the SDGs

Bosnia and Herzegovina 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 **SDG 12 Responsible Consumption and production** and its Targets 12.4 1: 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, and 12.8: by 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature.

3 Good health and well-being

Target 3.9: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination

12 Responsible Consumption and production

Target 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

Target 12.8: By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature

17 Partnerships for the Goals

Target 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

Target 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

Detailed description of the Project's contribution to achieving 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 environmentally sound management of health care waste in 10 pilot health care facilities, including capacity building, better segregation of waste streams instalment and demonstration of disposal technologies - 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.

Hierarchy of objectives (including a visual snapshot)

The **overall objective** of the project is to **reduce risk for people's health and the environment through the prevention of U-POP releases, shifting from POPs toward non-POPs chemicals in the plastic industry, and sound destruction of at least 50 tons of POPs waste**.

This will be achieved through 5 components, namely:

Component 1. Capacity building and mainstreaming of POPs related legislation into the process of harmonisation of the BiH environmental legislation

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

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

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

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

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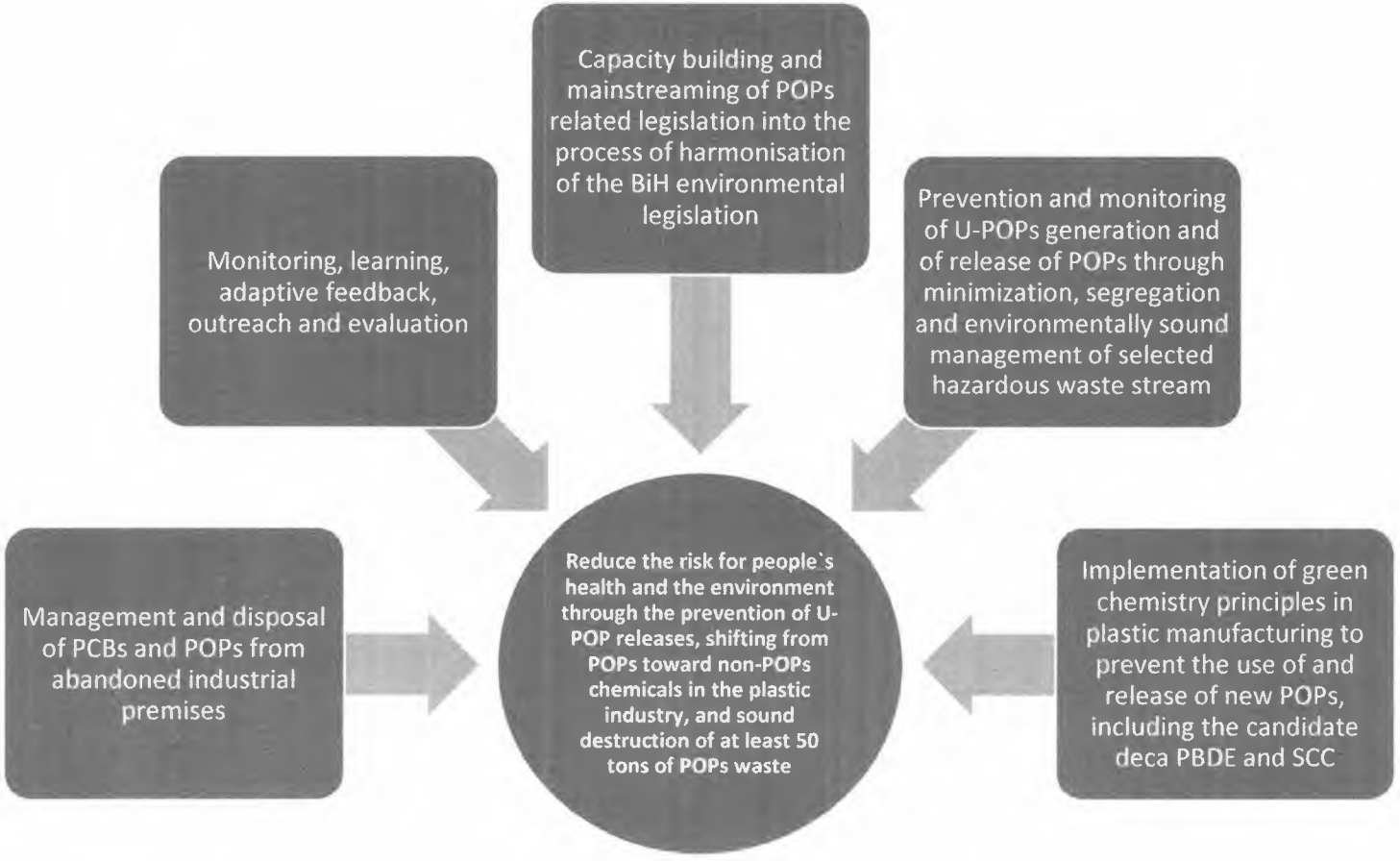


III. RESULTS AND PARTNERSHIPS

- **Detailed description of output, activities and expected results, project duration**

The project will be articulated in the following components and outputs:

Component 1. Capacity building and mainstreaming of POPs related legislation into the process of harmonisation of the BiH environmental legislation.

Outcome 1.1 POPs related legislation mainstreamed into the process of inter-institutional and EU harmonization of the BIH environmental legislation.

This outcome will require the establishment of the working groups with the task to conduct a GAP analysis of the relevant regulations which may be affected by the POPs regulations, to coordinate the filling of data gaps, and to draft and submit the relevant regulation to decision-making authorities for approval. The working groups will be having mutual meetings to work on implementation and fulfilment of BiH's obligations under the Stockholm Convention. Following the findings and recommendations of the National Implementation Plan for the Stockholm Convention, there shall be, but not limited to, six (6) working groups. Total number will depend on the consultations with the Project Board and respective decisions.

Output 1.1.1 Coordination structure for the implementation of the convention (horizontal and vertical) 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
Working groups for the implementation of the Stockholm Convention, consisted of relevant institutions from the level of BiH, two entities and Brčko District, and chaired by the Focal Point of the Ministry of Foreign Trade and Economic Relations of BiH will be established in the fields under the scope of the Stockholm Convention: environmental protection, health protection, planning and trade, planning of transport, agriculture, and occupational safety and industry. The overall number of thirty-two (32) institutions covering these sectors, from BiH wide, 2 entities, Brčko District levels will be represented under the working groups.

Activities:

a1 An expert to develop a road map for working groups' obligations', deliverables, deadlines, including mapping of the relevant institutions and data exchange/data flows
For establishment of the working groups, the project will select an expert tasked to develop clear and straightforward document, a Road map explaining functionality and objectives of the working groups including the overall responsibilities of the working groups' members. In addition, Road map shall contain obligations and deliverables per each relevant sector (environment, health, agriculture, waste, industry etc.), working groups composition, as well as frequency of the meetings, allocation of responsibilities for POPs management in existing institutional frameworks, etc.
The main role of the working groups is ensuring the implementation of the project activities in accordance with the obligations set out in the Stockholm Convention and EU accession agenda.

a2 Institutions identified as members of the working groups to nominate the responsible persons in respective institutions for the implementation of the Stockholm Convention
Official letters will be drafted and submitted to relevant institutions from state, entity and level of Brčko District within the sectors of environmental protection, health protection, planning and trade, planning of transport, agriculture, occupational safety and industry sectors.

a3 Initial meeting of the working groups' members

Upon finalization of the road map from the Activity 1 and establishing membership of the working groups, the project team shall organize initial meeting, no later than 60 days after membership has been established. Meeting will encompass project presentation, expert's most important findings (a1), presentation of the Road map and working groups. Furthermore, the members shall agree on the frequency of the meetings (and the venue) and can discuss the obligations as set out within the Road map. The expert can lead the discussion and address comments and additions, if any.
Minutes of the meeting will be used as a data source for the Results framework output indicator 1.2.

Output 1.1.2. Stockholm Convention mainstreamed in the environmental legislation of the BiH decision 2 entities and Brčko district. POPs related decrees drafted and approved.
Based on the EU model, the following downstream regulation, potentially affected by the POPs regulation, will be checked for necessary amendments:

- Regulation on the transport of hazardous substances
- PCB regulation
- Regulation on the registration and labelling of chemicals
- Regulation concerning the Integrated Prevention and Pollution Control, or BAT/BEP guidance
- Biocidal and Pesticides
- Legislation on Waste, including End of Life Vehicles, WEEE, Health Care Waste
- Environmental Quality and Limit Values for water, soil, air
- Regulation on chemical accident prevention
- Regulation concerning residue of chemicals in food

Activities:

a1 Expert to prepare a GAP analysis of the existing environmental legal framework and institutional needs concerning the Stockholm Convention and EU legislation with identified legal acts (at the state, entity and Brčko district government levels) subject to amendments/updates.
Following the recommendations set in the Environmental Approximation Strategy of BiH, entities and Brčko district, appointed expert from output 1.1.1 shall revise the current harmonization level of BiH wide legislation with the EU acquis and the Stockholm Convention provisions and define the main gaps of the existing legal framework within the sector.
The GAP analysis shall contain legal, technical and institutional shortcomings within each sector and respective recommendations for improvements. As the baseline for the relevant bylaws the expert shall use all EU legislative acts related to the chemicals` sector as follows[8]:

- Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of *Chemicals* (REACH), establishing a European *Chemicals* Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC
- Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals Text with EEA relevance
- Decision (EU) 2016/2099 of the European Parliament and of the Council of 23 November 2016 on the mobilisation of the European Globalisation Adjustment Fund (following an application from Estonia — EGF/2016/003 EE/petroleum and chemicals)
- Directive 2004/10/EC of the European Parliament and of the Council of 11 February 2004 on the harmonisation of laws, regulations and administrative provisions relating to the application of the principles of good laboratory practice and the verification of their applications for tests on chemical substances (codified version) (Text with EEA relevance)
- Regulation (EU) No 98/2013 of the European Parliament and of the Council of 15 January 2013 on the marketing and use of explosives precursors Text with EEA relevance

[8] https://eur-lex.europa.eu/search.html?qid=1550060227556&text=chemicals&scope=EURLEX&type=quick&lang=en

- Regulation (EU) No 528/2012 of the European Parliament and of the Council of 22 May 2012 concerning the making available on the market and use of biocidal products Text with EEA relevance
- Regulation (EC) No 1223/2009 of the European Parliament and of the Council of 30 November 2009 on cosmetic products (Text with EEA relevance)
- Directive 2009/128/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for Community action to achieve the sustainable use of pesticides (Text with EEA relevance)
- Directive 2004/9/EC of the European Parliament and of the Council of 11 February 2004 on the inspection and verification of good laboratory practice (GLP) (Codified version) (Text with EEA relevance)
- Directive 2002/32/EC of the European Parliament and of the Council of 7 May 2002 on undesirable substances in animal feed - Council statement
- Regulation (EC) No 648/2004 of the European Parliament and of the Council of 31 March 2004 on detergents (Text with EEA relevance)
- Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC
- Regulation (EU) 2017/852 of the European Parliament and of the Council of 17 May 2017 on mercury, and repealing Regulation (EC) No 1102/2008 (Text with EEA relevance.)
- Directive 2014/28/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market and supervision of explosives for civil uses (recast) Text with EEA relevance
- Directive 2014/34/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to equipment and protective systems intended for use in potentially explosive atmospheres (recast) Text with EEA relevance
- Regulation (EU) No 1257/2013 of the European Parliament and of the Council of 20 November 2013 on ship recycling and amending Regulation (EC) No 1013/2006 and Directive 2009/16/EC Text with EEA relevance
- Directive 2013/29/EU of the European Parliament and of the Council of 12 June 2013 on the harmonisation of the laws of the Member States relating to the making available on the market of pyrotechnic articles (recast) Text with EEA relevance
- Directive 2012/18/EU of the European Parliament and of the Council of 4 July 2012 on the control of major-accident hazards involving dangerous substances, amending and subsequently repealing Council Directive 96/82/EC Text with EEA relevance
- Directive 2004/9/EC of the European Parliament and of the Council of 11 February 2004 on the inspection and verification of good laboratory practice (GLP) (Codified version) (Text with EEA relevance)
- Directive 2002/32/EC of the European Parliament and of the Council of 7 May 2002 on undesirable substances in animal feed - Council statement

Within this activity, POPs related legislation that ensures fulfilment of all obligations under the Stockholm Convention will be drafted/amended/revised by the working groups and approved by the Project Board, which also includes a procedure of preparing a Decision act for implementing Stockholm Convention and technical assistance in mainstreaming the Stockholm Convention and its Annexes into relevant legal framework of Bosnia and Herzegovina.

a2 <u>In communication with the working groups for the implementation of the Stockholm Convention prioritize and decide on development/amendments of the POPs related legal acts.</u>
At the joint meeting, working groups will be presented with the findings of the Gap analysis from 1.1.2 a1 activity and recommendations for further actions. Expert will list relevant legal acts (at all state, entity and Brčko district government levels) that need to be enacted/amended for mainstream of the Stockholm Convention in the BiH wide legal framework. All documents produced by the experts will be sent to working groups' members for an overview and opinion.

a3 Develop at least 4 legal acts as communicated and agreed with the working groups based on the GAP analysis.
Following the findings and recommendations of the GAP analysis and in accordance with the EU standards and obligations under the Stockholm Convention, legal expert will be appointed to draft and finalize at least 4 legal acts for the state, entity and Brčko district government levels. Members of the working groups will have a final say in prioritizing relevant legal acts from the GAP analysis.

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.
The training will concern all the downstream laws potentially affected by the Stockholm Convention on POPs. Due to the high number of training items, the training will be organized in two training events structured in parallel sessions covering each one a specific sector. Each session will be attended by the officers specifically in charge of that sector. Each session will cover the specific Stockholm Convention obligation(s), example on how these obligations have been mainstreamed in the legislation of other countries (with specific reference to EU and EU countries), analysis of the situation in BiH, the law-making process on the levels of BiH, entities, and Brčko District, along with enforcement issues, and steps needed for harmonisation at BiH inter-institutional and EU level. The training will also cover the issue of POPs releases and industrial facilities that might produce POP releases for the environmental permit authorities, as well as for people responsible for energy production, and industry and waste management institutions, and other priority industry sectors from NIP.

Activities:

a1 Based on the GAP analysis from output 1.1.2. develop and provide training programme (detailed plan for education with tools and modules) for environmental decision makers on the integration of the Stockholm Convention and the EU rules and regulations in the BiH wide legal framework.
Based on the research conducted by the project team and consultations with UNDP offices that have implemented similar projects, the project team shall select and appoint an institution/agency with comprehensive knowledge and proven experience in developing the training programme for harmonization of BiH wide legislation with the Stockholm Convention provisions and the EU rules and regulations. Training programme shall cover each relevant sector separately and provide a baseline for harmonization activities within each sector.

a2 Following the best EU practices organize trainings for decision makers within the relevant fields in accordance with the developed training programme.
Tools and modules for each sector will be presented by the appointed agency/institution from output 1.1.3, Activity 1 at the separate training sessions.
Decision makers will be selected based on recommendations from the GAP analysis, NIP, and working groups recommendations.

a3 Organize BiH wide consultations on the integration of the Stockholm Convention with the EU and BiH wide legislation on chemical and waste.
In cooperation with the working groups and with approval of the Project Board, the project team will select institutions from relevant sectors and ask them to nominate their representatives to undergo the training. Training will be conducted by experienced international experts in chemical management sector, and expertise in multi sectoral approach for harmonization of legal acts.

Output 1.1.4 A software/database on POPs, containing also information on new POPs not fully addressed in the NIP is developed and made available to the stakeholders
Filling of information gap is a starting point for the design of any regulatory process. In BiH, a NIP has been completed in 2015, containing preliminary information on the 22 POPs currently listed under the SC. However, the software/database shall include all POPs from the existing Stockholm Convention List and other to be added on the list after the COP 9 scheduled for April-May 2019, filling the gaps and harmonizing the data.

Activities:

a1 Using existing documents (NIP, country reports to the Stockholm Convention, etc.) develop a list of all chemicals covered by the Stockholm Convention and their (potential) data sources in BiH.
Project team shall develop a list of all 28 chemicals covered by the Stockholm Convention and map institutions that are potential data sources for each chemical. Bilateral and multilateral meetings and questionnaires will be used as a communication tool to obtain necessary data in this regard.

a2 Desk review of existing data sets, data collection, and data flows across responsible institutions in BiH at all levels.
Desk review will be based upon the findings and recommendations as per the GAP analysis from the output 1.1.2 Activity1, shall include list of all 28 chemicals alongside the data sources and reporting mechanisms (horizontal and vertical, if possible). Desk review will, following the consultations with the working groups, encompass recommendations for enhanced institutional cooperation, software/database entry points and reporting procedures. Software/database will contain at least 2 examples of the best practices from the EU (and the region) enabling the project team to select an institution/agency that will develop a software/database and respective guidelines.
Final version of the Desk review will be sent to all working groups, consulted and amended respectively.

a3 In collaboration with the working groups establish a software/database on POPs, with appropriate reports, tools and user manuals.
Based on the Desk review, and output 1.1.4 Activity2, an agency/institution will design and enable comprehensive software/database encompassing relevant available data from all relevant departments and institutions. In cooperation with selected agency/institution, the project team will develop software/database user manual and/or, providing a core for the reporting mechanism proposal (Activity 5).
Software/database shall be regularly updated, enabling rapid access to information. For complete overview and functioning of a software/database, the project team will select an agency/institution to develop a report on the implementation of the Stockholm Convention in BiH.
This way, the software/database should enable the Stockholm Convention's Focal Point in BiH to meet all reporting obligations under the Convention and moreover, enhance technical capacities for collecting, organizing, structuring and processing data on POPs in BiH, including improvement of the exchange of information among competent institutions. Following the project closure, working groups will assume ownership of the software/database.

a4 Organize official testing event (stakeholder consultations/training).
Developed and functional software/database will be presented at an official event followed by a hands-on training for relevant institutions/agencies from each respective sector.
Testing event shall be prepared and organized by the project team and needs to include a presentation of the best practices regarding the software/database on the use of POPs.

a5 Draft reporting mechanism proposal for data reporting.
A clear and precise data reporting scheme shall be drafted based on the findings of the Desk review and user manual/tool from Activity 3. In addition to reporting scheme, the mechanism proposal shall contain detailed description of data providers, data/information exchange procedures (vertical/horizontal), data structure and data processing options (QA/QC). GAP analysis (output 1.1.2, Activity 1) will, among other, identify the necessity for existence of the legal act for data flow, and it will be developed within the project.

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

Under this component, activities aiming at the reduction of U-POPs release through the implementation of Environmentally Sound Management for some selected waste streams will be carried out as ensuring adequate management of hazardous wastes (with a focus on waste containing POPs substances) is one of the priorities for POPs management listed in the NIP.
That will encompass the management of healthcare waste, and the management of empty pesticide containers. Moreover, under this component, the capacity of the country to monitor POPs in the

environment and the capacity of Customs' inspectorates to prevent illegal trafficking of POPs containing chemicals and good will be enhanced.
One of the activities listed in the action plans in NIP under the measures to reduce emissions from unintentional production is regular monitoring of POPs compounds from Annex C of the Convention in industrial entities and other institutions in the sectors of energy, waste disposal and health care that unintentionally produce them, include them into the database, and keep statistical records about changes in the concentration of measured parameters.

Outcome 2.1. Around 10g TEq of PCDD/F release avoided through the establishment of capacity for the proper segregation and management of waste generating U-POPs

Output 2.1.1 Eight (8) g/TeQ of PCDD/F release avoided through the environmentally sound management of health care waste in 10 pilot health care facilities, including capacity building, better segregation of waste streams instalment and demonstration of disposal technologies.
The objective of the Output pertaining to HCWM is to protect human and environmental health by reducing releases of U-POPs derived from incineration of mixed health care waste with a large fraction of chlorinated plastic and expired pharmaceutical products in sub-standard facilities. This will build up on the experience gathered by UNDP during the implementation of similar activities in several countries. It will encompass training and technical assistance delivered to healthcare facilities to improve the segregation of healthcare waste; procurement, installation and demonstration of waste disinfection technologies not releasing U-POPs as a safe and viable alternative to the use of small scale, substandard incinerators; safe final disposal of the disinfected waste stream to prevent the risk of their disposal through combustion in the open air; and communication of the result achieved to promote replication and sustainability. It is envisaged that through the implementation of these activities in ten (10) healthcare facilities, for an overall number of beds amounting to around 5,000, the release of, at least, eight (8) gTeQ of PCDD/Fs will be permanently avoided.
There are no reliable statistical data on medical waste production, as the FBiH and RS do not have a registry system for generated medical waste. The most recent report has been drafted as part of the Environmental Protection Assessment Report for Industrial, Medical and Other Hazardous Waste in Bosnia and Herzegovina, developed by BiH's Bosnia-S Oil Services Company.
The survey included a register of HCW generators, a cadastre of medical hazardous wastes in BiH, and a cadastre of expired pharmaceutical waste in BiH. At that time, the conclusions of the survey were that the following key aspects were missing: 1) An organized system of HCW management and treatment, 2) Special regulations related to the treatment of HCW, and 3) Record of HCW generation.
Having in mind that the Study mentioned above is rather outdated, and that recently haven`t been conducted any new researches in this regard, activities under this outcome will,inter alia, include detailed overview of relevant sectors in Bosnia and Herzegovina, following priorities both from NIP and Annex C of the Stockholm Convention.
Moreover, as stated in the Federal Waste Management Plan of FBiH 2012-2017, http://bit.do/eNZbM page 28, hazardous medical waste in FBiH is partially sterilized, melted and incinerated (General Hospital Abdulah Nakaš, Veterinary Institute Bihać), hands over the waste to authorized companies for its further treatment or to the public communal utilities. Non-hazardous medical waste is mostly collected and treated by the public communal utilities, while the smaller amount of it is sterilized or autoclaved. Waste Management Plan of RS from 2017-2026, http://bit.do/eNZbw, page 35 states that health care facilities and hospitals are having difficulties in identification of different waste types collected, as well as in its management, reflected in insufficient number of authorizes companies for waste management collectors, irregular transport of collected waste, high price of treating such waste and similar. Bigger hospital and University hospital in Banjaluka practice selective waste collection and have contracts with authorized companies for medical waste management. Most of the health care facilities have signed contracts with companies authorizes for collection, transport and final treatment of medical waste.

Activities:

a1 Determine the baseline for POPs emission, based on the existing data in relevant sectors in BiH
The project team shall use the existing baseline produced in the NIP and will update it with the POPs added in the meantime at respective Conference of the Parties of the Convention. Consultations will be conducted with both public and private sectors in this regard.

a2 Develop methodology and selection criteria for the healthcare facilities.
The project team will consult the regional technical advisers on chemicals management (UNDP regional hub) to appoint an expert for development of methodology and selection criteria based on the best practices from the region, if possible.

a3 Identification and selection of the 10 pilot healthcare facilities.
Based on developed methodology and straightforward selection criteria, the project team will consult entities' (if needed cantonal as well) ministries of health and respective working group(s) for selection of 10 pilot healthcare facilities (taking into consideration equal representation of state and entities' levels, including Brčko District level). The analyses and selection of these facilities will be conducted following also the existing praxis of health care waste management and information and data provided in Waste Management Plans of respective facilities, municipalities and cantons.

a4 Following the best EU practices (and lessons learned from the similar activities/initiatives implemented in the region) organize a series of training modules on good practices in the health-care waste management covering all aspects of the waste management activities from identification and classification of wastes to considerations guiding their safe disposal using both non-incineration or incineration strategies (possible partnership with World Health Organization, WHO).
A series of training modules following the existing good practices in the health-care waste management will be developed to cover all aspects of waste management activities from identification and classification of waste to considerations guiding their safe disposal using both non-incineration or incineration strategies. The project team will (in potential partnership with WHO) select an expert that will use the best practices, and deliver technical assistance and trainings, covering at least 5 modules, to the healthcare facilities.

a5 Demonstrating environmentally sound management using appropriate BAT/BEP technologies and calculate resulting emission reduction.

In accordance with activities listed in action plans in NIP to promote the introduction of BAT and BEP in industry, energy sector, waste management sector, medical and other institutions, and make BAT and BEP applied in the EU available, the project team will appoint appropriate expert institution to select and decide best available techniques (BAT) and best environmental practices (BEP) technologies to demonstrate environmentally sound management in BiH and to process calculation of the resulting emission reduction, using the UNEP toolkit (http://toolkit.pops.int/) for Identification and Quantification of Releases of Dioxins, Furans and Other Unintentional POPs, as advised by the Stockholm Convention to facilitate implementation of the Article 5. This will be done for priority sectors in BiH, as stated in NIP.

Output 2.1.2 Two (2) g/TeQ of PCDD/F releases avoided through the implementation of environmentally sound management of plastic waste contaminated by pesticides.

This output will be achieved by means of training for farmers, pesticide retailers and institution on the procedures and strategies aimed at: i). minimizing the generation of plastic waste from the use of pesticides, ii). ensuring that the empty containers are left completely clean before being disposed of, through the adoption of the triple rinsing method; iii). preventing the reuse of empty containers through their collection in specific collection points, and iv). demonstration of collection, decontamination and recycling/ disposal of at least 30 tons of abandoned empty pesticide containers. Through the achievement of this output it is envisaged that the release of at least two (2) gTeQ PCDD/Fs will be avoided, and at least 5 tons of obsolete organic pesticides will be prevented to enter the environment.

Activities:

a1 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 training.
The project team will draft the questionnaire comprising relevant questions on the data/information necessary for subject's selection. Each working group will be consulted in this process and will act as a data provider to map farmers, pesticide retailers and relevant institutions.

a2 Develop training of trainers' 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.
Based on the UNDP's implemented projects in the region and following the consultations with the Regional technical advisers on chemicals management from UNDP regional hub, the team will develop ToR for an expert institution to develop training modules and prepare on site demonstration at selected localities.

a3 On site demonstration of environmentally sound management of plastic waste contaminated by pesticides.
On site demonstration will be conducted in series by the experts from appointed institution under the Activity 2 of the output 2.1.2.

a4 Purchase of containers for safe disposal of empty pesticides containers for at least 10 pesticide retailers for dissemination to the farmers.
The project will conduct procurement procedure after obtaining three offers from BiH (if necessary, from the region and/or EU).

a5 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.
In close collaboration with the UN Communications in BiH, the project team will develop a mini-campaign to raise public awareness on the safe disposal of empty pesticide containers in terms of preparing informational leaflets and posters and their distribution to stakeholders, primarily to retailers and local communities (launching possibilities at related international day e.g. WED, World health day, etc.)

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

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. At least 50 sampling and analysis of POPs (U-POPs in the atmosphere and POPs pesticide in soil) carried out:

- training of laboratory staff on sampling of POPs (pesticides) in the environment;
- training of laboratory staff on sampling of U-POPs in the environmental air;
- training of laboratory staff on sampling of U-POPs at the stack of industrial plants (i.e. power plant, incinerators);
- training of laboratory staff on analysis of POP pesticides;
- training of laboratory staff on analysis of PCDD/Fs and PCBs.

Under this output, equipment for sampling of soil, water, environmental air and industrial emissions, including one isokinetic probe, one isokinetic sampler with accessories, one high-volume sampler will be procured. A High-resolution GC/MS system will be also procured under the project.

As mentioned, fifty (50) samples will be collected and analyzed as follows:

- 30 samples of soil or chemical stockpiles for the analytical determination of POPs pesticides
- 10 samples of environmental air for the analytical determination of PCDD/F and PCBs
- 10 samples at the stack of industrial or waste disposal facilities for the analytical determination of PCDD/F and PCBs

Sampling will be conducted using approved sampling methods and following the international standards (e.g. https://bit.ly/2G7Y0kg).

Activities:

a1 Desktop review of laboratories in BiH competent and interested in sampling and analyses of POPs to undergo trainings.
The project team will use the findings in the NIP and consult with the relevant working groups whether there are laboratories in BiH that perform sampling and analyses of POPs. The process will

include reviewing the list of laboratories which are authorized to carry out monitoring (the list is publicly available on the official websites of the state institutions), and by reviewing the list of accredited laboratories disclosed by the Institute for Accreditation of BiH (BATA) on its official website (data from 2018).

a2 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.
Development process will include selection of an expert that will prepare the training module and deliver a series of trainings afterwards. Selection procedure will be conducted by UNDP following the best EU practices (and building upon the relevant projects from the region).

a3 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).
Appointed expert from Activity2 will be consulted for planning of the trainings and organize and deliver them in cooperation with the project team.

Outcome 2.3. Prevention of illegal import or marketing of chemicals of goods containing or contaminated by POP substances.

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. At least 20 customs officers trained on the implementation of this manual.

On the prevention of the legal import and marketing of POPs containing chemicals and goods (i.e. pesticides, electrical equipment contaminated by PCBs, article possibly contaminated by POPs substances) the project will perform training 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; the project will establish and provide technical assistance and manuals with clear instruction to be followed during inspections. Linkage of this output with output 2.2.1 will be established so that the Customs officers could also participate in training related to the monitoring of POPs.
Prepare and implement a training program for customs officers on illegal import/export of POPs pesticides, in cooperation with the Indirect Taxation Authority of BiH, the Ministry of Foreign Trade and Economic Relations of BiH, the Plant Health Protection Administration of BiH and other competent institutions in BiH, FBiH, RS and BD;

Activities:

a1 In cooperation with Indirect Taxation Authority of BiH conduct a mapping of customs offices in BiH to identify locations with the most intense chemicals' import.
The project team will cooperate with the Indirect Taxation Authority of BiH to obtain necessary data on the customs officers and locations with the most intense chemicals import. Acquired data/information will be consolidated into a comprehensive document.

a2 Prepare and distribute a manual for custom officers on identification, prevention of illegal import of POPs and safe handling.
According to the preliminary inventory the existing customs tariffs are not adequate for detailed monitoring of imports of POPs pesticides. The Indirect Taxation Authority of BiH (Customs Sector) does not have an established special tariff for all pesticides that are listed on the Stockholm Convention.
The project team will, in cooperation with the Indirect Taxation Authority of BiH, select expert institution for development of the manual for custom officers that will address recognized shortcomings and provide clear guidelines on identification, prevention of illegal import of POPs and safe handling; and provide means for compliance with the Regulation on Restrictions, Ban and Manufacture Conditions, Trade and Use of Chemicals through training of staff of customs officers under MoFTER's coordination.

a3 Organize working sessions for nominated custom officers for presentation of the manual (identification, prevention of illegal import of POPs and safe handling) (+ involve Indirect Taxation Authority of BiH).

Working sessions will be organized upon finalization of the Manual, while sessions will be delivered by the expert institution appointed within the Activity2.

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.

PBDEs are among the most common additives flame retardants. As these additives are only physically bonded to the polymer molecule, they are more susceptible of being released when plastic article or plastic waste are exposed to the environment. In general, deca-BDE flame retardant may be used in the manufacturing of articles made with different plastic polymers, like polyolefin, polystyrene, PVC, ABS, Styrene acrylonitrile, polyphenylene oxide, unsaturated polyester, epoxy ester, polyurethane. As of now, the amount of deca-BDE used in plastic manufacturing in BiH is unknown. In addition to deca-BDE, short-chain chlorinated paraffins (SCCPs) have been recently considered by the SC's POP review committee, as fulfilling the criteria set by Annex D of the Stockholm convention. SCCPs are used as pressure lubricants, as flame retardants in plastics and textiles, as plasticizer for polyvinyl chloride in polyethylene sealants, and in detergents.
Although BiH is approaching the EU environmental regulation's standards, the industrial economy is still not familiarized with the new regulations, and the level of environmental consciousness of industrial operators is low. Plastic manufacturing industry in Bosnia and Herzegovina is emerging while awareness on green chemistry approach and alternatives to POPs substances in the plastic manufacturing industry is low. There is still a substantial amount of industrial chemicals imported without an effective scrutiny from the Customs department which, due to different rules in the three territorial entities, adopts somewhat different criteria based on the point of entry. These may include flame retardants, plasticizers.
A rapid interview survey conducted during the preparation of Project proposal listed 26 industries manufacturing plastic products which may use plasticizer or flame retardants in their manufacturing process. These factories manufacture different kind of products, including bottles, industrial products including articles possible exposed to heath during their use, water and sewage pipes, LDPE foils, self-extinguishing products, PVC furniture.

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.

Output 3.1.1 Training on green chemistry in plastic manufacturing carried out for at least 50 participants.
As part of Output 3.1.1, training sessions held by GC experts will be delivered to ensure capacity building and training in the plastic manufacturing industry (part of the experts trained will be professors as well as higher education staff). The project also anticipates facilitating establishment of partnerships and training between higher education institutions in BiH and countries where R&D on GC has significantly advanced, to ensure that students as well as institutions become part of international knowledge and exchange networks and information on new developments in this field is more easily accessible. To this purpose, training stages conducted directly in manufacturing plants, selected in the plastic sector, either in BiH or abroad, will be arranged so that the teachers and students will base their knowledge on practical experience rather than only on theoretical classroom training.

Activities:

a1 Conduct a screening of plastic manufacturing companies and develop methodology and selection criteria for participation in capacity building and trainings.
Activity is based upon the EU's REACH regulation on chemicals legislation is seen as a very powerful promoter of sustainable innovation and green chemistry. REACH favours innovative new materials and processes by granting potential exemptions from registration for five years for substances used in research and development. Through this activity, the project team will make a list of plastic manufacturing companies in the entire BiH, following the consultations with the working groups and relevant institutions. Emphasis will be on the private sector and establishment of cooperation in this sense.
For methodology development and selection criteria, the project team will consult similar initiatives/project teams from the region and appoint an agency/institution that will continue with

development of methodology following the best EU practices. This activity will showcase the green chemistry introduction and sustainable innovation and educate manufacturers on the importance of facilitating the phasing out of hazardous chemicals and substituting them with safer alternatives.

a2 Using the best EU practices organize a training aimed at ensuring capacity building in the plastic manufacturing industry for selected companies.
Companies mapped within the Activity 1 will be subject to selection criteria for participation at capacity building trainings. The project team will evaluate companies in collaboration with relevant representatives of the working groups. Training will be delivered by the appointed green chemistry experts selected based on their experience, recommendations and similar implemented initiatives/projects.

a3 Out of trained companies select at least three (3) to monitor the level of success for adoption of the green chemistry principle.
Monitoring procedure will be drafted and delivered by the experts from the Activity 2, while the selection of the 3 companies will depend on the readiness and probability to phase out hazardous chemicals, and the amount of PBDE used in manufacturing per company. Monitoring will be conducted for 12 months with produced progress, midterm and final report.

a4 Establish a cluster of plastic manufacturers to set a base for the future training center.
One part of the training within Activity 2 will be education on the new developments in this field and possibilities for partnerships of the higher education institutions and plastic manufacturing companies. Project will form a cluster of plastic manufacturers in BiH and propose for collaboration with higher education institution including trainings within the countries and abroad where green chemistry introduction has significantly advanced. This way, educational institutions will be provided practical knowledge of international practices and exchange networks and information on new developments in this field will become more easily accessible.

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. This output will be achieved through different means:

a1 Site visits and environmental audits in a number of manufacturing plants.
An expert group established under this output will perform site visits to a number of plants in each sector, with the purpose to gather information relevant to the manufacturing processes adopted, the chemical profiles of enterprises, chemical releases in water, soil, atmosphere and relevant technologies adopted for the treatment of these releases, generation and management of waste including hazardous waste;

a2 Draft an assessment of the Safety Data Sheets[9]
An expert group shall produce an assessment to identify information missing and understanding whether, based on their knowledge, some mixtures may contain POPs, POPs precursors, or other hazardous substances.

Based on this analysis, a list of possible interventions to prevent the use of POPs or releases of U-POPs will be proposed. These may be represented by:

- Better enterprise-level control of waste effluents;
- Reuse / recycling of plastic wasted during the manufacturing;
- Improvement of polymerisation processes - reductions in the quantity of additives through optimized processes;
- Replacement of brominated flame retardants with non-brominated - non-POPs flame retardants;
- Restriction / control of the import of deca-PBDE into the country;
- Improvement of design of articles so that flame-retardants (FR) are not necessary (alternative measures to reduce fire risk);

[9] An SDS is a document that provides detailed information about a hazardous chemical, including the identity of the chemical product and its ingredients, the hazards of the chemical including health hazards, physical hazards and environmental hazards, physical properties of the chemical, like boiling point, flash point and incompatibilities with other chemicals, workplace exposure standards for airborne contaminants, safe handling and storage procedures for the chemical, what to do in the event of an emergency or spill, first aid information, and transport information.

- Reduction of heating through a better process control and insulation of reactors;
- Introduction of quality criteria for plastic manufacturing, including the use of recycled plastic;
- Production of bio-degradable bio-plastic, which may prevent the release of U-POPs through accidental combustion;
- Real time monitoring of air and wastewater effluents.

It is expected that at least 20 manufacturing plants will be visited. During each visit, the expert group will also discuss 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. In order to encourage replication of best practices and success stories and to provide a platform for continuous capturing and sharing of GC experiences, the project will prepare technical tools and technical guidance on the introduction of the Green Chemistry in the plastic manufacturing sector.

Output 3.1.3 Development of incentive mechanisms to ensure sustainability and replicability of GC initiative in the manufacturing industry.

In accordance with the NIP's priorities, a BiH wide incentive mechanism to promote the adoption of BAT/BEP, substitution of hazardous substances (including POPs or POPs precursors) with safer alternatives and minimization of waste in the manufacturing industry will be developed.
This will be 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.

a1 On the basis of previously conducted activities, the project team will, provided support of the local expert, prepare a list of possible interventions for application of BATs/BEPs in the plastic industry and healthcare facilities, along with all possible alternatives for safer production process.

a2 The project team with support of the entities' environmental funds will develop incentive mechanisms, environmental fees and applicable financial schemes in the framework of existing financial mechanisms or a new window within environmental funds for industries willing to invest in their production processes and health care facilities in terms of environmentally sound health waste management.

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

This component is intended to address part of the objectives listed under priority No. 5 listed in the NIP, namely:

- 5.3. Preliminary registry of contaminated sites is established by 2017;
- 5.4. Established, harmonized and operational management systems for special categories of waste, including waste containing PCBs, EEE and end-of-life vehicles;
- 5.5. A system of hotspot management and remediation is established by 2018; and
- 5.6. Remediation of priority hotspots is carried out by 2020."

As stated in NIP, the PCDD/PCDF Inventory Group (in accordance with the guidelines provided by the UNEP Toolkit (2013)) has characterized the sites as potentially contaminated areas.
However, it is stated that further exploration is necessary in order to verify the contamination of these sites, as part of another project or in the course of the following inventory audit.

This Component is articulated in one outcome and three outputs.

Outcome 4.1 Inventory and disposal of PCBs and POPs from abandoned industrial premises.
Under this component, all industrial sites listed in the NIP as contaminated areas and hotspots in BiH will be inspected, assessed for the presence of POPs, and listed in a database.
Output 4.1.1 All the abandoned industrial sites inspected and listed in a data base.

As a significant amount of information on the contaminated site is lost due to the political situation in the country soon after its independence, the first step to achieve this output will be to gather 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, the industrial associations, to collect all the useful historical information on the situation of the industry in the country. Based on the information collected, a list of sites to be visited will be drafted and the sites will be visited accompanied by visual assessments. The outcome of the preliminary inspection will be entered in site-specific data sheets and a data system for easy uploading of data, extracting information and data storage, to be used in the future on site remediation.

Activities:

a1 Analyse the basic questions that precede the development of the legal framework for management of contaminated areas: Defining the contaminated sites; framework of responsibilities; Institutional control; Public involvement and risk communication.
Following the NIP findings, the basic questions and shortcomings regarding contaminated areas will be documented. This analysis will contain location, definition and contamination cause(s) of certain areas and possibilities (recommendations) for remediation. Furthermore, it will explain institutional and/or public responsibilities for contamination with the intuitional control and need for public involvement. With this activity, information collected in previous researches on potentially POPs contaminated locations will be consolidated, and in collaboration with the entities' (and cantonal) ministries of agriculture, ministries of environment and BiH and Entities' agencies for statistics, as well as all other relevant institutions, a preliminary list of these areas in BiH will be determined.

a2 Prioritize and list POPs contaminated areas subject to remediation.
Prioritization of contaminated areas subject to remediation will be conducted by an expert with vast experience in remediation of these kind of sites in the EU and the region, following the best remediation practices.

a3 Establish temporary registers of contaminated areas.
Registers of contaminated sites will be product of collaboration among respective working groups, data providers and the project team and shall form a part of the software/database from the output 1.1.4, Activity 3.

Output 4.1.2 Environmental management plan (EMP) drafted and approved for at least 3 POPs contaminated sites.

A complete EMP for, at least, three (3) POPs contaminated sites will be drafted, including monitoring plan, risk reduction measures, clean-up plans including bills of quantities, post-closure monitoring plans.

Activities:

a1 Mapping data/ information/ data providers necessary to compile an environmental management plan and draft comprehensive remediation - management plan for at least 3 POPs contaminated sites.
Based on activities from output 4.1.1 and collected information/analysis, expert engaged for output 4.1.1 will conduct data mapping and based on received inputs draft and finalize comprehensive remediation plan, in close collaboration with the working groups and the project team. In this regard, the Training Manual "Preparation of a National Environmentally Sound Management Plan for PCBs and PCB-Contaminated Equipment" (UNEP and the Secretariat of the Basel Convention, 2003) can be used accordingly.

a2 Sites' visits and best practices from the region applied.
The project team will search into the best practices from the region that can be applied for remediation of selected contamination sites. UNDP country offices from the region will be consulted in this regard.

Output 4.1.3 At least 50 tons of POPs containing waste or equipment disposed of.

At least 50 tons of PCBs/PCB-contaminated equipment or other POPs contaminated materials and waste will be disposed of through packaging and shipping to disposal facilities, compliant with the Stockholm Convention and Basel Convention's requirements.

Activities:

a1 Make a list of equipment and waste types (along with its producers) that may potentially contain the POPs.
Using the literature and international experience, make this list to be able to identify quantity of waste and equipment, its producers (owners) and locations.

a2 Based on collected data and using existing capacities of hazardous waste (electronic and electrical waste) operators shall establish collection point for these waste and equipment.

a3 In cooperation with the competent institutions in BiH and respective working group(s) develop and implement plan for disposal of the waste and equipment types containing POPs.
The project team shall, in cooperation with respective institutions, develop the plan for export and disposal of the waste and equipment types containing waste, preceded by the prioritization and selection process. Within the plan, the project team shall conduct research on disposal facilities and countries to export POPs containing waste and electronic types to, compliant with the requirements of the Stockholm Convention and Basel Convention. In cooperation with the Indirect Taxation Authority of BiH, the project team shall decide the best export route and possible duration.

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

Through component 5, the project performance will be continuously monitored against the indicators set. Mid-term and terminal evaluation will be drafted.

Besides that, following the mechanism of exchange of experience, lessons learned, exploring the possibilities of technology transfer and engaging the expertise, the project shall establish cooperation with the Swedish Chemicals Agency (KEMI) and the Research Centre for Toxic Compounds in the Environment (RECETOX) from the Czech Republic. KEMI is a supervisory authority under the Swedish Government ensuring proper management of the companies' and society's chemicals control with vast of experience in developing legislation and other instruments, supervising importers and manufacturers of chemical products, pesticides and articles, followed by an extensive work at international level. RECETOX centre is an independent department at the Faculty of Science, Masaryk University, with separate programmes on research and development, expert activities within the field of environmental contamination. Environmental chemistry and modelling division within the Centre is focused on experimental and theoretical research of environmental contamination by toxic compounds.

This component will include the following outcome and output:

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

Activities:

a1 Research of applicable best practices and lessons learned, especially from the EU countries, skills and competences acquired through the implementation of approved projects.
For this activity the project team will consult regional technical advisers from the UNDP regional HUB and regional offices. For this activity a best practices and lessons learned will be transposed to the country.

a2 Implementation and application of researches and methodologies within the institutions responsible for the implementation of POPs monitoring, and evaluation of research results.

Best practices will be showcased to the relevant institutions at the study visits to institutions from the region that have implemented similar initiatives. Appointed expert will develop and train the relevant institutions on the methodologies that shall be used for the implementation of POPs monitoring and evaluation of results.

a3 Awareness rising campaign in the country.
Campaign shall be developed prior to the World Health Day and promoted in partnership with WHO and respective international community partners. Development and implementation of campaign will be done by an appointed communication agency in close collaboration with the project team and conducted in at least 4 bigger cities (eg. Sarajevo, Mostar, Banja Luka, Tuzla).

a4 Accumulation of all materials project produced, training modules, researches, lessons learned, best practices used in one comprehensive document.
Project team will consolidate all project materials into one comprehensive document divided by the chapters or several smaller thematic documents. This activity will be ongoing from the project inception and will be finalized in the last 2 quarters of the project.

The project team, at the inception stage of the project, will develop a Communication Plan providing approaches for information collection and documenting project experiences and lessons-learned on a regular basis for each component and project outcome.

Methodological approach

The project is built upon the findings, conclusions and recommendations proposed within the National Implementation Plan of the Stockholm Convention, containing detailed overview of the measures that need to be taken in the country, institutional responsibilities for the measures and the necessary resources required for attaining the overall project objective.

The project will be implemented under UNDP's Direct Implementation Methodology (DIM) modality, in partnership and collaboration with respective partner institutions from the Government and international community. The proposal considers roles, responsibilities, and needs of various key ministries, institutions, and agencies in Bosnia and Herzegovina. Ministry of Foreign Trade and Economic Relations of Bosnia and Herzegovina (MoFTER); Ministry for Spatial Planning, Construction and Ecology of Republika Srpska, and Ministry of Environment and Tourism of the Federation of Bosnia and Herzegovina are the main stakeholders from the Government guiding the project implementation and highly committed to contribute to project implementation and generate ownership on planned activities and resulting outcomes.

Considering the main objective of the project targets reducing the risk for people's health and the environment through the prevention of U-POP releases, shifting from POPs toward non-POPs chemicals in the plastic industry, and sound destruction of at least 50 tons of POPs waste, the project needs to ensure active participation of all partners and shall identify their roles in the inception phase, and take into account the data and information roles, responsibilities, and needs of various other relevant institutions, agencies, private sector and NGO sector where possible.
Adaptive collaborative management will be used as an approach to engage stakeholders as collaborators in the design and implementation of project activities, considering envisaged risks that may arouse, as well as gender issues to ensure equal participation of women and men in all activities and project structures. Wherever possible, subject to project preparation, gender-disaggregated indicators will be included in the project's monitoring and evaluation plans.
The project will use lessons learned from related projects, developed strategies and regional best practices to optimize project activities and results. Results from the project will be disseminated within and beyond the project intervention zone through existing information sharing networks and forums.
The project will identify and participate, as relevant and appropriate, in scientific, policy-based and/ or any other networks, which may be of benefit to project implementation though lessons learned. The project will identify, analyse, and share lessons learned that might be beneficial in the design and implementation of similar future projects. Finally, there will be a two-way flow of information between this project and other projects of a similar focus.

Target groups, beneficiaries

Beneficiaries of the project will be in both the public and private sectors, starting from the general public, vulnerable groups, workers, educators, NGOs, all to persons responsible for POPs issues within the competent institutions, persons dealing with POPs management and management of POPs containing waste. 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.
In partnership with the entity level ministries for environmental protection and the BD Government, in cooperation with the ministries of health in FBiH, RS and the BD Government, project shall ensure that the assessments of the impacts of contaminated sites on human health and the environment in the proximity of such sites (based on the experiences of other Parties to the Stockholm Convention), on the basis of which these institutions should identify the most vulnerable sections of the population and prepare actions to further to alleviate the effects of POPs on the target groups, but also on the population of BiH as a whole.
At a local level, the environmental and health effects of persistent organic pollutants will be well communicated and understood at all levels of the community through the project. This will include policies for monitoring, handling, storage and repatriation of industrial hazardous and dangerous goods including persistent organic pollutants, ozone depletion substances and radioactive wastes, will be targeted for formulation and adoption.

Following the findings of the Environment, Health, Research and Development Group, people at high-risk are the ones who are professionally exposed to POPs, which can enter the human body through the lungs (inhalation), through the skin (dermal) or by mouth (ingestion), they include:

- persons working on hazardous waste landfills
- fire-fighters, particularly those who are involved in extinguishing fires on electrical installations
- persons working on repairs and replacement of condensers and transformers
- workers in the construction industry who are involved in removing old paint, plaster and floor coverings
- persons who work in the production and processing of painted metals, building materials and the impregnation of different materials for fire protection
- persons employed in the chemical and textile industry.

Based on the analysis of scientific literature available to the general scientific community, people, who are not occupationally exposed to POPs, encounter large quantities of POPs through food, therefore fish, milk and dairy products, and to a minor extent, fruits. As a rule, sports fishermen and those occupationally engaged in fishery consume large amounts of fish and on average they intake higher amounts of CDD and CDF. Particularly vulnerable part of the population are pregnant women, breastfeeding women and children. Others who can be exposed to the risk of increased intake of CDD and CDF are individuals living in contaminated areas or near industrial emitters of CDD and CDF and are engaged in agriculture and particularly cattle breeding.
The most vulnerable group consists of persons exposed to POPs substances before birth or shortly after birth and infants, due to the immune-toxic effects of POPs, and due to their impact on the development of the nervous and endocrine systems. Compared to adults, children take larger amounts of food and water in relation to body mass, and therefore are more vulnerable to the influences of POPs.
The second most vulnerable group consists of women who, due to physiological reasons, are particularly affected by the endocrine disruptive POPs substances, which lead to developmental disorders, prior to puberty and thereafter. A wide range of malignancies is associated with substances that have estrogenic activity, which renders women particularly vulnerable. However, the lack of any relevant data in BiH does not support the claims made by international researches[10].

[10] McLachlan et al. 1994, Hattemer-Frey and Travis 1989. Päpke et al. 1992..

Geographical area of intervention and territorial demarcation with other relevant interventions (if relevant, particularly for local/regional/area-based programmes)

Project geographical area of intervention includes the entire territory of Bosnia and Herzegovina. The project is highly relevant for the POPs management in BiH. The importance of this project is reflected in its objective and the fact that the project represents the first practical activity in area of the Stockholm Convention after BiH the National Implementation Plan. Successful project implementation should play an important role for implementation of environmentally sound management of POPs in BiH wide scale (BIH, FBIH, RS and BD) to be implemented also in private industry and other relevant sectors.

Resources Required to Achieve the Expected Results

i. COMPONENTS	RESOURCES IN USD
Component 1: Capacity building and mainstreaming of POPs related legislation into the process of harmonisation of the BiH environmental legislation	**650,0000**
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	**2,040,000**
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	**800,000**
Component 4: Management and disposal of PCBs and POPs from abandoned industrial premises	**600,000**
Component 5: Monitoring, learning, adaptive feedback, outreach and evaluation	**100,000**
Project Management	**509,950**
Evaluation	**60,000**
GMS	**380,796**
TOTAL	**5,140,746**

Partnerships (stakeholder's analysis)

Project will establish partnership with the following institutions (starting from the State Government level), the Ministry of Foreign Trade and Economic Relations of BiH (MoFTER), focal point institution for Stockholm Convention, and in particular its Department of environmental protection. At entity level, the Ministry of Environment and Tourism of the Federation of Bosnia and Herzegovina and the Ministry of Spatial Planning, Civil Engineering and Ecology of Republika Srpska are the main intended beneficiaries, including the relevant departments of the Brčko District.

Apart from the Government institution, the Swedish International Development Cooperation Agency (SIDA) will have an active an important place within the project, given its long-lasting experience in helping, among others, developing countries for fulfilment of their obligations as proposed by the both national and international regulations and agreements.

An important role, especially for preparation of the training modules on illegal import export of POPs, in cooperation with MOFTER the Plant Health Protection Administration of BiH and other competent institutions in BiH, FBiH, RS and BD, will have the Indirect Taxation Authority of BiH, which holds a general coordinating function in the segment of health, as well as chemicals.

In Republika Srpska, the management of chemicals is under the jurisdiction of the Ministry of Health and Social Welfare of Republika Srpska, in accordance with the Law on Biocides (Official Gazette of RS, no. 37/09), biocide products may be placed on the market only after obtaining the authorization of the Ministry of Health and Social Welfare of RS. This means that biocides may be placed on the market and used for intended purposes only if the Minister of health and social welfare issues a permit for placing of the biocide on the market or if the biocide has been registered in the Technical Dossier Submission Program (which contains basic data on legal entities, biocides and active substances).

Law on Sale of Poisons (Official Gazette of RBiH, no. 2/92 and 13/94) is used as a blanket rule in the Federation of BiH. Pursuant to this Law, the authority for poisons is the Federal Ministry of Health. This law does not use the term „chemical ", but rather „poison "with a narrower meaning than is the case with modern laws on chemicals. Pursuant to Article 3 of this Law, poisons cannot be placed on the market nor used until they are classified based on their degree of toxicity. The authorised minister decides about classifying poisons into groups, based on the opinion of the Committee for Poisons. This committee is appointed by the authorised minister (in this case the Federal Minister of Health).

For the electrical and electronic (EE) waste management, the subjects included in the system of managing and can be considered as project stakeholders are manufacturers, importers, distributors, collectors, end users, operators of EE waste management systems and the Environmental Fund of FBiH, which is a legal entity with public authorities performing activities related to the organization of EE waste management.

In the Federation of BiH, the Law on Putting into Circulation of Toxins (Official Gazette of SFRY, no. 13/91) regulates the circulation and use of POPs pesticides (which have been defined as toxins in this Law), and in accordance with the Law on Protection of Plants Against Diseases and Pests (Official Gazette of RBiH, no. 2/92, 13/94) the Federal Ministry of Agriculture, Water Management and Forestry issues decisions authorizing the placing of plant protection products on the domestic market.

In Republika Srpska Pesticides are registered by the Ministry of Agriculture, Forestry and Water Management upon the proposal of the Commission for plant protection products, and at the request of the manufacturer or authorized representative.

As for the transport of hazardous materials across the BiH borders and the territory of RS, which are not registered in the Integral Chemicals Inventory in accordance with the Law on Chemicals (Official Gazette of RS, no. 25/09), requires the approval of the Ministry of Health and Social Protection with the consent of the Ministry of Internal Affairs. Approvals are not issued if the toxic material is registered in Integral Chemicals Inventory.

One of the main project partners for data collection will be statistical institutions (State Agency and entities' statistical offices) that have improved data on the statistics of the environment.

- Regional institutions that play an important role in data gathering, monitoring and the sharing of information through field extension offices.
- Civil society, including academic institutions, as users of EMIS data and information, incl. farmers and agricultural cooperatives, faculties of agriculture, biology and other natural sciences of three main universities in Bosnia and Herzegovina, environmental NGOs etc.
- The private sector, having a role and responsibility to collect and report data on resource use and pollution.

Table 2 - Stakeholder analyses

	Stakeholder	Assumptions	Expected results
Government Institutions	Ministry of Foreign Trade and Economic Relations of BiH (MoFTER)	MoFTER will have an important coordination role for the implementation of the Convention. Once the working groups are established, they will be chaired by the FP of the Convention within the MoFTER.	Established working groups chaired by the FP from MoFTER. Established effective coordination and communication between the working groups' members

	Stakeholder	Assumptions	Expected results
		The project team will consult MoFTER at every project stage and communicate respective activities.	
	Indirect Taxation Authority	In cooperation with the Indirect taxation authority of BiH the project team will implement activities aimed at prevention of illegal import or marketing of chemical goods containing/ contaminated by the POPs. In this sense, mapping of customs offices in Bosnia and Herzegovina and identification of the most intense chemicals import locations will be mapped.	Cooperation of the Indirect Taxation Authority and the project team will result in a prepared and developed manual for the Customs for prevention of illegal import for POPs chemicals, with provided means for compliance with the Regulation on Restrictions, Ban and Manufacture Conditions, Trade and Use of Chemicals. Furthermore, mapped customs officers will be provided guidelines and trained on identifying, preventing and safe handling of the POPs chemicals.
	Agency for Statistics of BiH (BHAS) Institute for statistics of FBiH, Institute for statistics of RS	The Agency for Statistics of BiH is responsible for the processing, distribution and determination of statistical data at the level of BiH and BD, whereas the Federal Institute of Statistics and the Republic Institute of Statistics of RS are responsible for the processing, distribution and determination of statistical data at the level of FBiH and RS. BHAS is the main provider of statistical data on industrial production, transport, waste, etc., and therefore it is relevant for majority of sectors relevant to the POP-PBDEs and PFOS Inventory. For the project implementation, BHAS/ agencies will be the main statistical data provider.	Obtained and documented relevant statistical data for the targeted sectors.
	Ministry of Spatial Planning, Construction and Ecology of RS Ministry of Environment and Tourism of FBiH/ Cantonal ministries	Consultation the ministries will be conducted to identify specific needs, development and environment related sectoral policies, regulations and guidelines, as well as to identify a range of potential investment projects in each of the targeted sectors. In addition, through cooperation with the ministries the project will identify specific needs, control of UPOPs and Hg releases and environment related sectoral	Identified specific needs, developed environment related sectoral policies, regulations and guidelines, and identified a range of potential investment projects in each of the targeted sectors.

	Stakeholder	Assumptions	Expected results
		policies, regulations and guidelines.	
	Ministry of Health FBiH/ Cantonal ministries; Ministry of Health RS; Public Health Institute FBiH, Public Health Institute RS	Ministries of health will be consulted to map priorities and pre-select districts and facilities for project interventions. More precisely, the project team will cooperate with the ministries for development of the methodology and selection criteria for the healthcare facilities and selection of these facilities, with the objective of establishing environmentally sound management of the health care waste in healthcare facilities.	Release of 10g TEq of PCDD/F release avoided through the environmentally sound management of healthcare waste in 10 pilot healthcare facilities. Built capacities of the healthcare facilities personnel and established better segregation of waste streams instalment and disposal technologies demonstration. Cooperation with the ministries results in best practice example that can be used for knowledge management and replicated in additional facilities and future initiatives.
Project board	Ministry of Foreign Trade and Economic Relations of BiH; Federal Ministry of Environment and Tourism; Ministry of Spatial Planning, Civil Engineering and Ecology of RS; Embassy of Sweden in BiH; UNDP	A Project Board will include representatives of relevant Government ministries and provide strategic direction and oversight to project management. Membership will also include Embassy of Sweden in BiH and UNDP representatives. PB will meet at least semi-annual to review project progress, approve workplans and budgets, provide direction and guidance, and assist in project implementation, as well as provide synergies with other complementing initiatives.	Project oversight and guidance. Provided overall guidance and ensured coordination between all parties Provided overall supervision for project implementation, Additional approvals (progress reports, budget reports, etc.)
Target groups	Personnel in hospitals and healthcare facilities; Personnel in plastic manufacturing companies; Importers and exporters of pesticides; Electronics, consumer goods; Manufacturers of chemicals; Farmers Metallurgical industry and thermal power plants	Most of the targeted groups that will be separately mapped in the project inception phase, will undergo a respective training and capacity building.	Developed effective instruments for information dissemination on POPs. Mapped target groups (according to the geographical scope) actively included in respective project activities. Midterm and end term results documented. Undertaken activities to educate and raise awareness of the obligations under the Convention.
Private Sector	Private companies/ Business entities and medium-sized enterprises	During the implementation of both Project activities, business entities and medium-sized enterprises of targeted sectors will be mapped to provide them with the capacity building	The Green chemistry principles in the emerging plastic manufacturing sector adopted and the level of success monitored for certain period to ensure sustainable

	Stakeholder	Assumptions	Expected results
		training in the plastic manufacturing and introducing the green chemistry principle.	and replicable use of the green chemistry principle.
Media	Social media/ web portals	Media will announce information about the Project's activities and disseminate the achieved outputs, results and benefits.	Promotion of the Project to a wider public audience.
Other Organizations	NGO sector	NGO sector can be involved in the project, if needed, for awareness rising activities and after initial screening of NGOs actively involved in the targeted sectors.	Initial screening of NGOs actively involved in the targeted sectors.

Transversal themes: gender equality, social inclusion, human rights, disaster risk reduction

Gender equality

The Project will involve 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.

Adequate management of POPs is closely related to economic and social development. In many cases, the poorest parts of the world population consistently 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. Research of the World Health Organization (WHO) states that long-term, continuous exposure to hazardous chemicals in water, food, soil and air can cause various health problems, including damage to the reproductive and neurological system. Numerous social and biological factors determine the level of exposure to hazardous chemicals, and their effect on human health. 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 lypophilic 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.

Gender is also seen as a key component of the project's holistic approach for results-based management, and it will be addressed throughout the project cycle in the following way:

- The project will monitor the share of women and men who are direct project beneficiaries, and it will also monitor the nature of these benefits.
- Gender-sensitive targets and activities will be monitored in project reporting, both in annual reports and in the mid-term Project Evaluation and the Final Project evaluation.

The UNDP gender marker for this project is 2.

In the inception phase of the project, within the first three months, the project team will conduct Gender analyses to be used as a basis for project activities to plan effective and efficient inclusion of women in the

project activities and results, through development of meaningful and illustrative indicators in terms of gender equality and mainstreaming of gender issues.

Social inclusion

Studies show that exposure to POPs can adversely affect both wildlife and humans resulting in reproductive or development disorders, nervous system damage, and immune system diseases, among other effects. POPs persist in the environment, bioaccumulate within food chains and travel long distances on wind and water currents.

In the more degraded environments, the adverse effects are exacerbated or magnified. The environment affects poverty in three different manners: it ensures sources of sustenance for the poor; it affects their health and influences their vulnerability. On the other side, poverty also affects the environment in different ways: it forces the poor to destroy the environment, it encourages countries to promote economic growth at the expense of the environment, it encourages poor societies to decrease the importance of environmental issues and it also leads to unsuccessful resource allocation for solving such problems. In rural areas, the poor have a stronger influence on and control over natural resources. Access to a clean environment is very important for the poor living in urban areas and it presents a priority. Prioritization of environmental issues may vary in relation to different social groups, as well as in relation to gender. For example, poor women, whose primary role is to run the household, may consider a safe supply of clean water, sewage and an unlimited service of electricity supply to be key aspects of welfare.

Even though there is still no systematic reporting on toxic chemicals and substances in all segments of the environment, there are information sources which clearly state that water, soil and food in BiH contain certain concentrations of harmful substances. The main sources of eco-toxic substances are inadequate disposal of municipal, medical and industrial waste, quarrying waste and a lack of wastewater treatment plants as well as sewage directly discharged into open receiving water bodies. Concentrations of toxic substances are being measured but reporting on findings in most cases is not unified. Usually, food samples are taken and analysed for toxic substance content, but not many studies on eco-toxicology are conducted.

The fact that sustainable economic and social development and eradication of poverty are the first and overriding priorities of the developing country, the project considers the need for the protection of human health and the environment by:

- Advancing the environmental legal framework;
- Producing training materials, delivering trainings for relevant institutions, by documenting and publishing the materials relevant for the respective sectors;
- Reducing generation and release of U-POPs and their negative effects to human and environmental health;
- Establishing the monitoring capacities of POPs and U-POPs in the environment;
- Introducing the green chemistry principles in plastic manufacturing aimed at prevention of use and release of new POPs.

Through its objective of reducing the risk for people's health and the environment through the prevention of U-POP releases, shifting from POPs toward non-POPs chemicals in the plastic industry, and sound destruction of at least 50 tons of POPs waste in BiH, the project results will have paramount importance to, to certain extent, alleviate the negative influence of POPs and U-POPs at human health and environment and to enable replication and sustainability of the project results.

Both social and environmental sustainability will be enhanced through application of the UNDP Social and Environmental Standards (http://www.undp.org/ses) and related Accountability Mechanism (http://www.undp.org/secu-srm).

Human rights

According to the Article 2 of the Constitution of BiH, the state and the entities shall ensure highest level of internationally recognized human rights (etc.) to its citizens. Both entities' Law on Environmental Protection stipulate that all people have the right to a healthy environment (including clean air) as their fundamental constitutional right. It further specifies that all human beings are entitled to living in an environment suitable for their health and well-being, and that it is an individual and collective duty to protect and improve the

environment for the benefit of present and future generations. A clean environment is essential for human health and well-being.

On the other hand, immunological changes in individuals exposed to PCB (most often through contaminated foods) have been observed both in adults and children. These changes are manifested in increased sensitivity to respiratory infections, increased sensitivity to ear infections in children and reduced level of immunoglobulin M (IgM) and immunoglobulin G (IgG). Lower antibody production is also described in cases of children perinatally exposed to PCB after antidiphtheria and antitetanus vaccinations. Genotoxic effect and the occurrence of malignant diseases are one of the most severe and most serious toxic effects of PCBs. There are various theories explaining the mechanism of such PCB effects, including the stimulation of estrogenic receptors, oxidative stress and damage to DNA, and covalent binding of PCB metabolites to nucleine acids and other cell macromolecules. For a long time, the International Agency for Research on Cancer, as part of WHO, classified PCB into Group 2A – substances probably carcinogenic to humans.

Disaster risk reduction

According to the World Health Organization (WHO) POPs are chemicals of global concern due to their potential for long-range transport, persistence in the environment, ability to bio-magnify and bio-accumulate in ecosystems, as well as their significant negative effects on human health and the environment.

POPs pose a threat to human health and the environment, do not decompose in the environment and accumulate in organisms, just as pesticides and PCBs. Due to improper management of these substances in the industry and improper management of these substances when they are no longer used and become waste, these substances can accumulate in the tissues of migrating animals as a result of emissions and/or releases into the air and water. In this manner, the substances can be transferred across international borders and reach far away from the place of emission and/ or discharge and can re-accumulate in terrestrial and aquatic ecosystems. It needs to be emphasized that POPs have a number of common chemical and physical properties that put them all together into the group of persistent organic pollutants. These properties are: high lipid solubility, semi-volatility, resistance to various physical and chemical factors which ensures their persistency in the environment, and the tendency to accumulate in fat tissue (bioaccumulation) and move up a food chain from the lower life forms to higher (biomagnification). When pure, all of them appear as white or yellowish crystal substances with low water solubility, but good solubility in a whole number of organic solvents and fats.

When found in pesticide formulations, they are dissolved in a matrix that contains solvents, emulsifiers and other agents that facilitate their application in the environment and on large areas but also their penetration into the bodies of insects and warm-blooded animals as well. Even as pure substances they can enter the body by direct contact through skin, lungs and digestive system, and if they are dissolved in various pesticide formulations that can be applied as aerosol, their body penetration is considerably facilitated and accelerated. Once in the body, they mostly deposit in the fat tissue and are very slowly subjected to metabolic transformation processes that can favour elimination.

Conflict prevention

While the primary objective of legal frameworks on chemicals management is to protect the environment and human health, they also have an impact on other areas regulated by government, including industry, trade, agriculture and food, finances and budget, etc. This may lead to some overlap in the responsibilities of different institutions, such as government departments of the environment, health, industry, agriculture, finances, etc. Institutional frameworks will be evaluated for conflicts or gaps, and to make sure that procedures are established to coordinate these institutions (this shall be done within the project Component 1).

Since conflict prevention is about making society resilient to conflict by strengthening the local capacities for peace (systems, resources, structures, attitudes, skills), the project will cautiously partner and improve dialogue among relevant stakeholders, and balance between different state structures, civil society and their constituencies, private actors as well as between various gender, age and identity groups in society. Any associated potential risk at any stage of the project will be consulted at the project board meeting and decisions and a way forward will be planned accordingly.

Anti-corruption

The Project intents to strengthen Institutional and Regulatory Capacity for Sound Chemicals Management with clear allocation of responsibilities in the decision-making process. This will be mostly treated through Component 1: Capacity building and mainstreaming of POPs related legislation into the process of harmonization of the BiH environmental legislation.

This Component encompasses the part of BiH's efforts to become fully compliant with the EU from an institutional and regulatory perspective. It is based on a strategy that adopts a path of harmonization of the national legal and regulatory environmental framework for sound chemicals management with that of the EU, which all contribute to the creation a transparent system with all parties involved.

Moreover, during project implementation UNDP's internal standard operating procedures and processes will assure anticorruption. Since 1996, UNDP has delivered more than 320 million USD in development assistance to Bosnia and Herzegovina. While UNDP finances some intervention activities with its core funds or other UN special-purpose resources, majority of its funding comes from partnerships with multilateral funds and bilateral donors, who recognize UNDP as a reliable and strategic development partner.

The UNDP operational system is composed of an accountability framework and an oversight policy. The accountability framework underscores the commitment of UNDP to results-based performance management, as well as to the shared values of accountability and transparency. The oversight policy of UNDP includes conducting independent internal and external audits providing assurances to the Executive Board and the Administrator that functional systems of internal controls are in place, including evaluation of the policy framework, efficient utilization of resources, and adherence to professional and ethical standards. Government counterparts participate directly in the design, as well as in the implementation and monitoring of UNDP activities through joint project boards, regular meetings with project and programme staff to review the results achieved and to take decisions on future actions.

The Programme and Operations Policies and Procedures provide the operational standards and give procedural guidance on core business processes globally and are the basis for all aspects of UNDP operations. UNDP also uses the Atlas software system as a results-based platform to support the management of projects, finances, human resources, inventory and procurement, and this forms the basis for UNDP's internal control and accountability framework. UNDP has a long-standing commitment to transparency, with Country Offices publishing financial, procurement and programme information annually. The Transparency Portal allows open, comprehensive public access to data on more than 4,000 active UNDP projects globally. The organization has also adopted the International Public Sector Accounting Standards (IPSAS), as a significant step towards further enhancing UNDP's transparency and accountability.

Synergies with other on-going or planned interventions

To achieve objectives envisaged by the project, lessons learned, and milestones of different projects/initiatives/interventions will be used, where applicable. As of 2010 onwards very few international projects have tackled the issue of reducing the risk for people's health and the environment by preventing U-POP releases and shifts from POPs toward non-POPs in the plastic industry.
The UNDP's project Strengthening Support for Building National Capacity for Sustainable Environmental Management (2007-2008) which was funded by GEF raised awareness and understanding of MEAs and their requirements/mechanisms that needed to be improved within the government and both private and public sectors. The project translated MEA related documents and created software/ database of the MEAs the country can aim at signing and ratifying in the coming years.

During 2013 and 2014, the Japan International Cooperation Agency – JICA, in collaboration with the Ministry of Foreign Trade and Economic Relations of BiH and the Federal Ministry of Environment and Tourism, implemented the "Project for Master Plan for Remediation of Hotspots in Bosnia and Herzegovina". The project was funded by the Japanese Government and prepared for the needs of the Federation of Bosnia and Herzegovina. The main objective of the project was the development of a Master Plan for the sustainable development and proper treatment of environmental hotspots located in FBiH and strengthening of capacities of relevant organizations for policy planning and environmental management in FBiH. Th relevant activities defined in the Master Plan have been applied in this Action Plan.

The project "Enabling activities to facilitate early action on the implementation of the Stockholm Convention on POPs", implemented by UNIDO aimed at strengthening national capacity and capability to formulate a National Implementation Plan (NIP) for the Stockholm Convention and assist the country to endorse and submit it to the Convention Secretariat.

The World Bank: Second Solid Waste Management project (43.5 million USD), (end 2017) aimed at (a) improving public health and quality of life by reducing exposure to pollutants and disease vectors from solid waste; (b) improve municipal institutional capacity by establishing up-to-date technical and financial solutions for SWM; (c) enhance environmental policy by improving the scope and depth of SWM strategies and facilitating recycling and waste-reduction programs nationwide; and (d) improve local governance by enhancing cooperation among municipalities.
The coordination was mostly on the side of hazardous waste and healthcare waste management.

Within the project "Persistent Pollutants in Rivers in Bosnia and Herzegovina" which was in BiH implemented by NIVA, in collaboration with the Faculty of Pharmacy, the University of Sarajevo, the following measurements were carried out: i. PCB content in river sediments (during 2008 and 2009, tests conducted on POPs content in the sediment from the river Bosna, by using the semipermeable membrane devices for passively sampling from water (SPMD) and fish); ii. POPs content in the river water (during 2007, performing tests to determine the presence of POPs in the water of the river Neretva (one of the two largest rivers in BiH).

Project MONET_CEEC was focused on measuring POPs substances in the air. During the project implementation in 2006, air samples containing POPs were collected at two locations in Bosnia and Herzegovina: in Banja Luka, at the site of the factory Incel, near the place where transformers are stored, and in Modriča, at the site of an oil refinery).

Project NATO ESP.EAP.SFP 984 073 "Development of decision support systems to reduce the risk of environmental pollution of the Bosna River" was focused on examining the content of POPs in sediments and river water river Bosna.

UNDP's project "Strengthening capacities in the Western Balkans countries to mitigate environmental problems through remediation of high priority hot spots" implemented during 2008/2010 is a valuable source of information. This was a regional project funded by the Government of Netherland and aimed to harmonise development of technical, institution and community skills in the Western Balkans to best deal with environmental hot spot problems.

The Project will also closely work with the UNDP's "Competitiveness and Innovation: Local Development Strategies – EU4Business" Project, which aims to contribute to economic growth and job creation through support for competitiveness and innovation in export-oriented sectors, tourism, agriculture and rural development. The collaboration will be predominantly related to usage of plastics and persistent organic pollutants in agriculture and food industry in Bosnia and Herzegovina.
As the EU4Business project intends to support modernization of large agri-food industry value chains, targeting commercial agri-food operations through a systematic and integrated measures alongside the supply chain: production, collection, processing, marketing, and sales, this is the perfect opportunity to initiate the transition towards environmentally sustainable management and usage of chemicals in agriculture and food industry.
Moreover, results and activities from POPs project will give valuable input in enhancing diversification of rural economic activities with focus on small-scale farmers who dominate rural Bosnia and Herzegovina, exploring opportunities to connect these with environmental protection and positive impacts on local communities and citizens' wellbeing.

Risks and Assumptions

The following table provides a detailed overview of the risks for the Project and measures for mitigation and indication on how the risks will be managed.

Table 3 - Risks and assumptions

#	Description	Type	Impact & Probability	Countermeasures / Management response	Owner	Status
1	*The risk that a consensus between ministries on entity level and level of BiH regarding development of harmonized policies for POPs data exchange is not reached*	Political	P = 3 I = 3	*Recognizing complex administrative and political structure in BiH, the project will work with and support both entities (FBiH and RS) and Brčko District separately to develop necessary legislative documents and assure harmonized approach towards data collection and exchange. In addition, the project will work with Focal Point of the Stockholm Convention (MoFTER) and facilitate establishment of the coordinating body for its implementation, following proposals in National Implementation Plan (NIP).*	UNDP CO	Medium
2	*Due to the complex political organization of the country, there is always assumption of the risk for successful implementation and ownership of the project*	Political	P=3 I=4	*The complex political structures in Bosnia and Herzegovina's Entities and the division of roles and responsibilities for the environment into various ministries and agencies can cause coordination challenges to the project. This risk will be mitigated through close collaboration with relevant stakeholders from the outset and by determining collaborative strategies and focal points in each of the key institutions; and equally through the improvement of institutional frameworks for chemicals management, and the coordination and clarification of mandates.*	UNDP CO	Medium
3	*Information on POPs not accessible, confidential, sensitive or non-existing*	Operational	P = 3 I = 3	*Development and design of a software/database that will suit all relevant stakeholders' needs and allow for data exchange among all relevant stakeholders and be used for regular reporting in accordance with both international obligations and provisions set in the local legislation.*	UNDP CO	Medium
4	*Institutional priorities may change threatening the sustainability of the project's outcomes*	Strategic	P = 2 I = 3	*Establishment of formal cooperation between relevant institutions through the coordinating body will create a collaboration platform to make the project activities run smoothly and efficiently* *Design of policies and regulations that can increase the sustainability of project results*	UNDP CO	Medium
5	*The authorities, civil servants and other stakeholders may*	Operational	P = 4 I = 2	*An awareness-raising and training plan will be developed and implemented so that relevant authorities and civil servants*	UNDP CO	Medium

	lack the knowledge and skills necessary for the sound environmental management of chemicals			*working on chemicals and waste management have the necessary knowledge to properly perform their tasks.*		
6	*The private sector may not be interested in investing in new processes for POPs elimination*	Operational	P = 2 I = 3	*Developing the POPs inventories will enable determination of future market for disposal activities, and the improved enforcement should lead to more demand for disposal capacity. This should encourage existing companies in charge of hazardous waste management and potential new companies in the private sector to invest in upgrade of existing or installations or purchase the new equippment and installations.*	UNDP CO	Medium
7	*Unwillingness of managers of the health-care (HC) facilities' managers to implement BAT/BEP in their hospitals/clinics.*	Technical Management	P=2 I=3	*In some cases, detected in other projects, some hospitals/clinics decline on participation as pilots and it requires time and effort to negotiate on their inclusion. Similar projects implemented in the HCW sector demonstrated that the recruitment of local experts to work directly (and regularly) with project healthcare facilities is usually considered by the HC managers as a substantial benefit and a facilitation to implement BAT and BEP. This approach will be adopted under this project too.*	UNDP CO	Medium
8	*Difficulties related to the procurement of equipment*	Management	P=1 I=3	*UNDP has accumulated experience in providing technical and administrative assistance to project countries for the procurement of specific equipment, including proof of performance testing and development of technical specifications. Strict coordination with governmental institutions and recipient HC facilities to ensure that procurement fulfil both local and UN rules will be established under the project.*	UNDP CO	Low
9	*Fluctuation of cost of POPs waste disposal services*	Financial	P=2 I=2	*Considering that majority of the POPs disposal facilities, where the POPs waste will be shipped to, are in the EU, and that these facilities already covered their investment costs, and operate on a highly competitive basis, the fluctuation of the price or disposal services is expected to be low. The volume of POPs waste estimated in BiH is also comparatively low to other POPs disposal operations elsewhere which may help keep disposal costs under predictable margins.*	UNDP CO	Low

South-South and Triangular Cooperation (SSC/TrC)

The project will directly support SSTrC through three cooperation modalities: (i) bi-lateral knowledge exchanges and exploration of technology transfer with other UNDP and/or SIDA projects in the region; (ii) cooperation with and contribution to other UNDP and/or SIDA funded projects and initiatives in developing countries including sharing project successes and lessons learned; and (iii) contribution to and learning from information exchange platforms that promote sharing of results and lessons learned within the country and region.

The project will ensure outreach to other relevant UNDP and/or SIDA projects, including those under implementation in Serbia since UNDP Project team has already established good cooperation in chemical sector trough implementation of GEF MIA Project. Namely, UNDP office in Serbia have implemented same project earlier than office in Bosnia and Hercegovina so mechanism of exchange of experience and lesson learned have been set up.

Following the mechanism of exchange of experience, lessons learned, exploring the possibilities of technology transfer and engaging the expertise, the project shall establish cooperation with the Swedish Chemicals Agency (KEMI) and the Research Centre for Toxic Compounds in the Environment (RECETOX) from the Czech Republic. KEMI is a supervisory authority under the Swedish Government ensuring proper management of the companies' and society's chemicals control with vast of experience in developing legislation and other instruments, supervising importers and manufacturers of chemical products, pesticides and articles, followed by an extensive work at international level. RECETOX centre is an independent department at the Faculty of Science, Masaryk University, with separate programmes on research and development, expert activities within the field of environmental contamination. Environmental chemistry and modelling division within the Centre is focused on experimental and theoretical research of environmental contamination by toxic compounds.

Furthermore, through the Project will be explored possibility of Donor Coordination in BiH and in region since GEF also funding projects in this area. In that terms the project will explore possibilities of cooperation with donors and agencies in the field of chemicals and ensure that there is no overlapping of activities in this area.

The project will seek to disseminate its results using existing information sharing networks and forums of relevant focus in BiH, regionally and globally. In terms of finding ways to capture knowledge and improve chances of it being utilized in post-project lifetimes, all information will be placed on UNDP web site and linked to the Stockholm Convention's focal point's web-site. The website will be kept updated with all the relevant technical, regulatory and administrative information, as well as with all the training and awareness materials developed, to enhance the opportunity for replication of project results throughout the country and beyond. This will add to the on-site communication activities related to awareness raising events, workshops, broadcasting, etc. It will also act as a platform for holding webinars and conferences on specific project activities, like POPs in plastic, safe management of pesticide containers, environmental monitoring, environmentally safe management of healthcare waste etc., if applicable. This will also contribute to SIDAs strategy of comprehensive regional cooperation rather than bilateral cooperation strategies for Georgia, Moldova, Ukraine, Belarus, Serbia, Kosovo, Albania and Bosnia and Herzegovina. These strategies will act as a support for the EU integration process.

Nine countries are in focus for SIDA reform work in the region; Albania, Bosnia and Herzegovina, Georgia, Kosovo, Macedonia, Moldova, Serbia, Turkey and Ukraine. Sweden has built trust here that gives efforts for South-South cooperation added value. UNDP recognized this effort and support it through exchange of experiences with other SIDA Projects from those countries.

As for the technology transfer the project team will identify try to establish cooperation with laboratories in the region that perform sampling and analyses of POPs, by using same equipment that will be procured through the Project. The process will include reviewing the list of laboratories which are authorized to carry out monitoring (the list is publicly available on the official websites of the state institutions), and by reviewing the list of accredited laboratories in country and region.

The laboratories from the region will also be consulted and informed on process of engagement of consultant for conducting 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). Engagement of International consultant is also possibility for contributing to the inter-regional experience exchange.

Knowledge management

Knowledge management and sharing is becoming increasingly important to ensure that good practices and decision-making are based on sound evidence. In that sense, the project will embrace a set of tools ensuring knowledge management and sharing and awareness raising on the subject matter; contributing to mind-set change of local administration and decision-makers specifically with regard to district heating based on renewables, and promoting exchange and dialogue among a wide set of stakeholders (specialists, district heating companies organisations, local governments, academia and think-tanks, domestic and international networks, etc.).Moreover, the knowledge gained from projects in project-based organizations risks getting lost after the completion of project if a proper knowledge management system is not established.

Specifically, the following knowledge sharing tools will be utilized by the project:

In terms of finding ways to capture knowledge and improve chances of it being utilized in post-project lifetimes, but also to enable project end users/ stakeholders to combine and store the existing knowledge in a manner that makes it easier them to reuse it at an appropriate time, and also to create new knowledge, the project team will adopt the following knowledge management approaches:

The project will adopt the following knowledge management approaches:

- Preparation of annual lessons-learned reports/publications: At least once a year the project will take stock of experiences and lessons-learned to that date (after at least one training conducted) to ensure that later in the process this valuable information is not lost. The project will capture such experiences and lessons learned in an easy to update, sharable and understandable communication materials/publications.
- Preparation of case studies/best practices from BiH: For each of the project partners the project will support, a case study report will be prepared to highlight achievements, lessons-learned and the approach/strategy used. The gender dimension will be particularly emphasized in these case studies.
- Preparation and publication of guidelines/tools: At a minimum, the project will ensure that all the guidance materials developed for and used during project implementation will be published and made available through a publicly accessible website.
- End-of-project publication: At the end of the project, a publication will be produced that summarizes the project's achievements, lessons-learned, challenges, experiences, photos, etc.
- Experience sharing at international events: Experiences resulting from the project implementation will be shared at international conferences and meetings, through side-events and presentation where feasible and when funding allows.
- Storytelling/ Storytelling workshops: Another tool used to share knowledge is storytelling workshops. These involve a social environment in which project members can communicate and exchange stories they have experienced. It is from this exchange that project members can share knowledge and learn from one another. Optional: Storytelling through the MapX application.
- Social media will be used to augment the outreach, and periodic bulletins summarizing project achievements, findings and the like, and the associated reports, tools or manuals generated, will be posted for public consumption.

Use of existing country systems, mechanisms and frameworks

The Project will be implemented in close cooperation with all relevant stakeholders and wherever possible use already existing systems and mechanisms which will support the implementation of the project. Thus, the project will strongly lean on existing UN activities jointly implemented with the Ministry of Foreign Trade and Economic Relations of Bosnia and Herzegovina, along with the entity ministries for environmental protection, the Government of the Brčko District and lessons learned.

The Project will be fully embedded within the governance system and as such, will directly support its structures, functions and strategic commitments regarding implementation of the Stockholm Convention and accompanying international obligations.

Sustainability and Scaling Up

In accordance with the REACH regulation, Environmental Approximation strategies of BiH, entities and the Brčko District, the project's approach shall instigate development of effective and long-lasting coordination mechanism and harmonization of the legal framework in the country, for fulfilment of obligations under Convention and respective EU legal instruments within the chemicals and waste sector. Moreover, 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.

The project planned software/database on 28 POPs, with appropriate tools and user manuals, alongside the mapped entry points, represents a potential for scaling up POPs management in BiH, in line with the international and different levels of governments in BiH obligations. Planned software/database on POPs will enable institutions of BiH, especially Focal Point of BiH to Stockholm Convention to meet all reporting obligations, enhance technical capacities for POPS data processing/ exchange in BiH, and improving exchange of information among respective institutions.

The approaches that the project seeks to utilise are relatively new to the region, such as reduction of U-POPs, will be tested in the BiH and will facilitate scale-up and replication. The project will document the interventions applied, through inter alia, preparation of yearly lessons-learned reports/publications, thus enabling other stakeholders to replicate such approaches and select the practices and technologies most fitting to their needs and circumstances.

This entails innovative approaches to the specific waste management aspects being addressed notably the adoption of BAT/BEP technologies in HCW management, exploring public/private business models in all aspects of waste management, and producing the EMPs for contaminated sites with the monitoring plan and risk reduction measures.

The intervention planned in the healthcare waste sector will be conducted in (selected) healthcare waste facilities, with an aim to demonstrate not only the reduction of U-POPs releases, but also their improved cost-efficiency and better public acceptance compared to the burning with sub-standard incinerators. This will in the end promote the replication of project's approach to other HCFs in the country. The same approach has been followed in the concept regarding the plastic industry, where the adoption of safer chemicals in the manufacturing process, coupled with the development of an incentive mechanism, will facilitate the shifting from POPs to non-POPs chemicals, and promote the development of the sector.

The project will ensure environmental sustainability by introducing the concept of the green chemistry in the plastic manufacturing to prevent the use of and release of new POPs, as one of the means of reducing/eliminating the need for the use and generation of hazardous substances.

In order to ensure country ownership, the project shall:

- Provide the open communication with stakeholders to ensure effectiveness, implementation advancement and advocacy roles;
- Effectively monitor project outcomes and expenditures;
- Use monitoring data to provide feedback to relevant stakeholders;
- Remain responsive to the needs of societies, including the most vulnerable populations;

- Respect commitments made in international agreements.

With 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 endeavours to mainstream POPs related legislation into the harmonization process of the BiH environmental legislation.

The project shall implement activities of environmentally sound management of selected hazardous waste stream aimed at reduction and proper monitoring of unintentional POPs generation and release, and enhancement of customs capacities to prevent illegal trafficking of POPs. In addition, the project will train at least one laboratory on the sampling analysis of POPs and unintentional POPs in the environment and at the stack of industrial sources, therefore enhancing monitoring capacities of respective stakeholders for POPs management.

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.

Establishing management and disposal practice of POPs from abandoned industrial premises, the project will, among other, define institutional responsibilities in this respect, and prepare environmental management plans for remediation of at least three (3) POPs contaminated sites. The outcome of preliminary inspection of contaminated sites will be documented and enabled for the future on site remediation.

IV. PROJECT MANAGEMENT

1. Cost Efficiency and Effectiveness

The Project will deploy numerous measures to achieve cost effectiveness. In terms of procurement, outsourcing of services will be based on a transparent and competitive process, as well as on the value-for-money principle.

For further cost efficiency, the Project will make use of existing collaboration with responsible institutions (provided in the chapter on target groups and beneficiaries), as usage of their information chemicals related topics will reduce additional costs related to this phase of project implementation.

The project is also expected to result in increased effectiveness on the part of implementing partners and other organizational stakeholders by streamlining the data collection and consolidating and automating the reporting process.

Project Management

The project will be 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.*

Project Monitoring, Evaluation and Reporting

The project will be monitored through the following M&E activities.

Monitoring

Project start:

A Project Inception Workshop will be held within the first 2 months of project start with those with assigned roles in the project organization structure, UNDP country office and where appropriate/feasible regional technical policy and programme advisors as well as relevant stakeholders from different administrative levels in BiH stakeholders. The Inception Workshop is crucial to building ownership for the project results and to plan the first-year annual work plan.

The Inception Workshop should address a number of key issues including:

a) Assist all stakeholder groups to fully understand and take ownership of the project. Detail the roles, support services and complementary responsibilities of UNDP CO staff vis à vis the project team. Discuss the roles, functions, and responsibilities within the project's decision-making structures, including reporting and communication lines, and conflict resolution mechanisms. The Terms of Reference for project staff will be discussed again as needed.

b) Provide a detailed overview of reporting, monitoring and evaluation (M&E) requirements. The Monitoring and Evaluation work plan and budget should be agreed and scheduled.

c) Discuss financial reporting procedures and obligations, and arrangements for annual audit.

d) Identify and define working groups, means of communication and workplan involving all stakeholders for the project implementation.

e) Plan and schedule Project Board meetings. Roles and responsibilities of all project organization structures should be clarified, and meetings planned. The first Project Board meeting should be held within the first month, e.g. before the inception workshop.

An Inception Workshop report is a key reference document and must be prepared and shared with participants to formalize various agreements and plans decided during the meeting.

The Project will be monitored and evaluated in line with UNDP corporate standards. Project monitoring will be characterised by a gender-sensitive approach. The main tools for organising the Project monitoring system encompass:

- The gender-sensitive Results Framework and its indicators as described in section V of the Project document;
- The Project risk analysis.
- In addition, UNDP will undertake internal quality assurance, as per standard UNDP corporate project quality assurance system, while the results and its recommendations will be presented to the Project Board.
- A detailed schedule of project reviews meetings will be developed by the project management, in consultation with project implementation partners and stakeholder representatives and incorporated in the Project Inception Report. Such a schedule will include: (i) tentative time frames for Project board Meetings, (or relevant advisory and/or coordination mechanisms) and (ii) project related Monitoring and Evaluation activities.
- *Day to day monitoring of implementation progress* will be the responsibility of the Project Manager based on the project's Annual Work plan and its indicators. The Project Team will inform the UNDP-CO of any delays or difficulties faced during implementation so that the appropriate support or corrective measures can be adopted in a timely and remedial fashion.
- *Periodic monitoring of implementation progress* will be undertaken by the UNDP-CO through quarterly meetings with the project proponent, or more frequently as deemed necessary. This will allow parties to take stock and to troubleshoot any problems pertaining to the project in a timely fashion to ensure smooth implementation of project activities.

Evaluations

The Project will be subject to external mid-term Project Evaluation engaging all relevant stakeholders and Project beneficiaries, to assess progress, achievements, relevance of the intervention and its approaches and if needed, identify suggestions for adjustments to the Project to be considered by the Project Board.

During the last three months, the project team will commission the external Final Project Evaluation. This comprehensive report will be elaborated by an independent evaluator and will summarize the results achieved (objectives, outcomes, outputs), lessons learned, problems met and areas where results may not have been achieved. It will also lay out recommendations for any further steps that may need to be taken to ensure sustainability and replicability of the project's results.

Reporting

UNDP will consolidate narrative reports, as well as detailed financial reports as per the requirements of the Donor. Those reports will include:

- **Annual Progress Reports** submitted to the donor
- **Final Project Narrative Report** submitted to the donor
- **Final Project Financial Report** submitted to the donor

Audit clause:

Audit on project will follow UNDP Financial Regulations and Rules and applicable Audit policies.

Visibility and communication

The Project team will develop and follow a structured Communication and Visibility Strategy in the inception phase of the project and presented to donor and partners.

Visibility, media-presence and public information sharing of project activities and achievements will be ensured on a regular basis by the UNDP through: i) media relations – e.g. media advisories, press events

related to formal ceremonies or highlighting key project results ii) digital promotion e.g. photo stories, video stories, social media posts, etc; iii) promotional and informational materials e.g. reports, brochures, leaflets; iv) events e.g. workshops, trainings, conferences, etc; v) display boards on investment site stating the contribution of the donator; vi) advocacy activities. All materials will be shared and approved by donor.

Through implementation of the Communication and Visibility Strategy, the project intends to raise awareness on project activities, encourage further interaction with stakeholders in Bosnia and Herzegovina, increase knowledge and disseminate information. Key visibility outputs are linked to project activities along the implementation, including:

- Events to launch the project and/or its thematic components;
- Public events in the project areas involving beneficiaries and main stakeholders;
- Dissemination of results of assessments undertaken or interim results achieved in the framework of the implementation;
- Utilization of digital media to disseminate information on project results;
- Establishing relations with media to follow and report on project results.

Information and press-statements will be in line with the Communication and Visibility Plan and visual identity requirements of the primary donor of the project. The visual identity of the Donator will be visibly displayed on all locations, events and materials.

V. RESULTS FRAMEWORK[11]

Table 4 - 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:* 50 tons (2023)	Project reports Mid-term review Final review	
Component 1: Capacity building and mainstreaming of POPs related legislation into the process of harmonisation of the BiH environmental legislation			
Outcomes	**Outcome Indicators**		**Assumptions and risks**
Outcome 1: POPs related legislation mainstreamed in to the process of inter-institutional and EU harmonization of the BIH environmental legislation	*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 (2020)	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

[11] UNDP publishes its project information (indicators, baselines, targets and results) to meet the International Aid Transparency Initiative (IATI) standards. Make sure that indicators are S.M.A.R.T. (Specific, Measurable, Attainable, Relevant and Time-bound), provide accurate baselines and targets underpinned by reliable evidence and data, and avoid acronyms so that external audience clearly understand the results of the project.

Gender analysis conducted	Gender analysis will be conducted and developed in the Inception phase of the project Indicators proposed by the Gender analysis will be entered here	Project reports Mid-term review Final review Verification by the third body	
Communication Strategy developed	Communication Strategy will be conducted and developed in the Inception phase of the project		
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 (2019)	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*: at least 4 (2023); 2 (2020); 2 (2021)		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 (2023) *Indicator*: BiH wide consultations organized *Baseline*: No (2019) *Target*: Yes (2021) _____Yes (2022)	List of participants Training programme Consultation meeting minutes Project reports	Institutional roles and responsibilities are clear and agreed
Output 1.4: A software/ database on POPs, containing also information on new POPs not fully addressed in the NIP is developed and made available to the stakeholders	*Indicator:* Established software/ database on POPs *Baseline*: No (2019) *Target*: Yes (2020)	Project Reports Mid-term Review Final Review	Data exchange not agreed amongst all institutions
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: Dioxins` (PCDD/F) release avoided through the establishment of capacity for the proper segregation and management of waste generating unintentional persistent organic pollutants (U-POPs)	*Indicator:* Proper segregation and management of waste established *Baseline*: No (2019) *Target:* Yes (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 environmentally sound management of health care	*Indicator:* Quantity (in grams of toxic equivalents g TEq) of PCDD/F avoided through the sound management of health care waste *Baseline:* 0 (2019) *Target:* 8 g TEq (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

waste in health care facilities, including capacity building, better segregation of waste streams instalment and demonstration of disposal technologies	5 TEq (2021) 3 TEq (2022) *Indicator:* Number of health care facilities included in the activities *Baseline*: 0 (2019) *Target:* 10 (2023) 5 (2021) 5 (2022)		
Output 2.1.2: 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 (2023) 2 g TEq (2022) *Indicator:* Number of people from relevant institutions and pesticide retailers trained *Baseline:* 0 (2019) *Target:* 100 (2023) 60 (2021) 40 (2022)		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		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 (2022); 30 (2023) - 30 samples of soil or chemical stock piles - 10 samples of environmental air	Project reports Mid-term review Final review Verification by the third body	Limited interest by the private sector to engage in project activities

	- 10 samples at the stack of industrial or waste disposal facilities		
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) 20 (2023)		
Component 3: Implementation of green chemistry principles in plastic manufacturing to prevent the use of and release of new PŠOPs, including the candidate deca PBDE ansd 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)	*Indicator:* *Baseline*: (2019) *Target*: (2023)	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) *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:	*Indicator:* Incentive mechanism to ensure sustainability and replicability of green chemistry initiative in the manufacturing industry developed	Project reports Mid-term review	

Development of incentive mechanisms to ensure sustainability and replicability of green chemistry initiative in the manufacturing industry	*Baseline*: No (2019) *Target*: Yes (2022)	Final review Verification by the third body	
Component 4: Management and disposal of PCBs and POPs from abandoned industrial premises			
Outcome 4 Inventory and disposal of PCBs and POPs from abandoned industrial premises		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: All the abandoned industrial sites inspected and listed in a data base	*Indicator:* Temporary register of contaminated areas prepared *Baseline*: No (2019) *Target*: Yes (2020)	Project reports Mid-term review Final review Verification by the third body	Limited interest by the private sector to engage in project activities
Output 4.2: Environmental management plan (EMP) drafted and approved	*Indicator:* Number of POPs contaminated sites with drafted and approved EMP *Baseline*: 0 (2019) *Target*: 2 (2020) 1 (2021)	Project reports Mid-term review Final review Verification by the third body	Limited interest by the private sector to engage in project activities
Output 4.3: 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*: 50 tons (2022) *Indicator:* Quantity (in tons) of PCBs/PCB-contaminated materials and waste disposed of *Baseline*: 0 (2019) *Target*: 50 tons (2022)	Project reports Mid-term review Final review Verification by the third body	

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 a software/ 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 pesticices 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 center	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 4.1.1.1: Analyse the basic questions that precede the development of the legal framework for management of contaminated areas: Defining the contaminated sites; framework of responsibilities; Institutional control; Public involvement and risk communication	UNDP Project team Local consultancy

	International consultant Working groups
Activity 4.1.1.2: Prioritize areas contaminated with POPs and develop the list of priorities for remediation	UNDP Project team Local consultancy International consultant Working groups
Activity 4.1.1.3: Establish temporary registers of contaminated areas	UNDP Project team Local consultancy International consultant Working groups
Activities for Output 4.1.2.	**Inputs**
Activity 4.1.2.1: Mapping data/ information/ data providers necessary to compile an environmental management plan and draft comprehensive remediation - management plan for at least 3 POPs contaminated sites	UNDP Project team Local consultancy International consultant Working groups
Activity 4.1.2.2: Sites visits and best practices from the region applied	UNDP Project team Local consultancy International consultant
Activities for Output 4.1.3.	**Inputs**
Activity 4.1.3.1: Make a list of equipment and waste types (along with its producers) that may potentially contain the POPs	UNDP Project team Local consultancy International consultant
Activity 4.1.3.2: On the basis of collected data, and using existing capacities of hazardous waste (electronic and electrical waste) operators establish collection point for these waste and equipment	UNDP Project team Local consultancy International consultant
Activity 4.1.3.3: In cooperation with ministries in charge, make necessary steps to dispose of, or export collected waste and equipment	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

VI. Monitoring And Evaluation

In accordance with UNDP's programming policies and procedures, the project will be monitored through the following monitoring and evaluation plans: *[Note: monitoring and evaluation plans should be adapted to project context, as needed]*

Monitoring Plan

Monitoring Activity	Purpose	Frequency	Expected Action	Partners (if joint)	Cost (if any)
Track results progress	Progress data against the results indicators in the RRF will be collected and analysed to assess the progress of the project in achieving the agreed outputs.	Quarterly, or in the frequency required for each indicator.	Slower than expected progress will be addressed by project management.		n/a
Monitor and Manage Risk	Identify specific risks that may threaten achievement of intended results. Identify and monitor risk management actions using a risk log. This includes monitoring measures and plans that may have been required as per UNDP's Social and Environmental Standards. Audits will be conducted in accordance with UNDP's audit policy to manage financial risk.	Quarterly	Risks are identified by project management and actions are taken to manage risk. The risk log is actively maintained to keep track of identified risks and actions taken.		n/a
Learn	Knowledge, good practices and lessons will be captured regularly, as well as actively sourced from other projects and partners and integrated back into the project.	At least annually	Relevant lessons are captured by the project team and used to inform management decisions.		5,000
Annual Project Quality Assurance	The quality of the project will be assessed against UNDP's quality standards to identify project strengths and weaknesses and to inform management decision making to improve the project.	Annually	Areas of strength and weakness will be reviewed by project management and used to inform decisions to improve project performance.		n/a
Review and Make Course Corrections	Internal review of data and evidence from all monitoring actions to inform decision making.	At least annually	Performance data, risks, lessons and quality will be discussed by the project board and used to make course corrections.		1,000
Project Report	A progress report will be 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	Annually, and at the end of the project (final report)			

	risk long with mitigation measures, and any evaluation or review reports prepared over the period.				
Project Review (Project Board)	The project's governance mechanism (i.e., project board) will hold regular project reviews to assess the performance of the project and review the Multi-Year Work Plan to ensure realistic budgeting over the life of the project. In the project's final year, the Project Board shall hold an end-of project review to capture lessons learned and discuss opportunities for scaling up and to socialize project results and lessons learned with relevant audiences.	Specify frequency (i.e., at least annually)	Any quality concerns or slower than expected progress should be discussed by the project board and management actions agreed to address the issues identified.		5,000

Evaluation Plan[12]

Evaluation Title	Partners (if joint)	Related Strategic Plan Output	UNDAF/CPD Outcome	Planned Completion Date	Key Evaluation Stakeholders	Cost and Source of Funding
Mid-Term Project Evaluation		As listed on the cover page	As listed on the cover page	Beginning of the year 3		30,000
Final Project Evaluation		As listed on the cover page	As listed on the cover page	Last quarter of year 5		30,000

[12] Optional, if needed.

VII. MULTI-YEAR WORK PLAN [13][14]

EXPECTED OUTPUT	ACTIVITIES	PLANNED SUB-ACTIVITIES	Planned Budget by Year (USD)					RESPONSIBLE PARTY	PLANNED BUDGET	
			Y1	Y2	Y3	Y4	Y5		Budget Description	Amount
Capacities built and coordination established to mainstream POPs related legislation into the process of harmonisation of the BiH's environmental legislation with the Stockholm Convention	**1. Capacity building and mainstreaming of POPs related legislation into the process of harmonisation of the BiH environmental legislation**	1.1.1 Coordination structure for the implementation of the convention (horizontal and vertical) 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	25,200	0	0	0	0	UNDP	Trainings, workshops meetings	5,200
								UNDP	Service contracts	12,000
								UNDP	Consultancy local	8,000
		1.1.2 Stockholm Convention mainstreamed in the environmental legislation of the 2 entities and Brčko district. POPs related legislative acts drafted and approved	60,000	60,000	60,000	0	0	UNDP	Service contracts	15,000
								UNDP	Consultancy local	110,000
								UNDP	Trainings, workshops meetings	5,000
								UNDP	Consultancy international	50,000

[13] Cost definitions and classifications for programme and development effectiveness costs to be charged to the project are defined in the Executive Board decision DP/2010/32

[14] Changes to a project budget affecting the scope (outputs), completion date, or total estimated project costs require a formal budget revision that must be signed by the project board. In other cases, the UNDP programme manager alone may sign the revision provided the other signatories have no objection. This procedure may be applied for example when the purpose of the revision is only to re-phase activities among years.

		1.1.3 Training on the integration of the Stockholm Convention with the EU and national legislation on chemical and waste for environmental decision makers carried out	0	0	102,500	59,800	0	UNDP	Consultancy local	0
								UNDP	Service contracts	20,000
								UNDP	Consultancy international	40,000
								UNDP	Travel	2,500
								UNDP	Consultancy companies	90,000
								UNDP	Trainings, workshops meetings	4,800
								UNDP	Communication and visibility	5,000
		1.1.4 A software/database on POPs, containing also information on new POPs not fully addressed in the NIP is developed and made available to the stakeholders	81,000	94,500	85,000	22,000	0	UNDP	Service contracts	10,000
								UNDP	Consultancy local	10,000
								UNDP	Consultancy international	10,000
								UNDP	Travel	10,900
								UNDP	Communication and visibility	2,500
								UNDP	Consultancy companies	239,100
					Sub-Total for Activity 1					
		2.1.1 Eight (8) g/TeQ of PCDD/F release avoided through the environmentally sound management of	0	175,000	0	175,000	0	UNDP	Service contracts	20,000
								UNDP	Consultancy local	40,000
								UNDP	Consultancy international	50,000
								UNDP	Travel	30,000

		health care waste in 10 pilot health care facilities, including capacity building, better segregation of waste streams instalment and demonstration of disposal technologies						UNDP	Consultancy companies	170,000
								UNDP	Communication and visibility	20,000
								UNDP	Trainings, workshops meetings	20,000
		2.1.2 Two (2) g/TeQ of PCDD/F releases avoided through the implementation of environmentally sound management of plastic waste contaminated by pesticides	0	0	550,000	550,000	0	UNDP	Service contracts	20,000
								UNDP	Consultancy local	20,000
								UNDP	Consultancy international	100,000
								UNDP	Travel	60,000
								UNDP	Consultancy companies	800,000
								UNDP	Communication and visibility	30,000
								UNDP	Trainings, workshops meetings	36,000
								UNDP	Miscellaneous	34,000
		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	0	0	0	225,000	225,000	UNDP	Service contracts	20,000
								UNDP	Consultancy local	50,000
								UNDP	Consultancy international	100,000
								UNDP	Travel	10,000
								UNDP	Consultancy companies	270,000
		2.3.1 Development of a manual for the Customs for the prevention of illegal import of	0	0	120,000	20,000	0	UNDP	Service contracts	10,000
								UNDP	Consultancy local	40,000
								UNDP	Consultancy international	20,000
								UNDP	Travel	10,000

		POPs chemicals or POPs containing mixtures or goods. At least 20 customs officers trained on the implementation of this manual						UNDP	Communication and visibility	30,000
								UNDP	Consultancy companies	30,000
					Sub-Total for Activity 2					
	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	3.1.1 Training on green chemistry in plastic manufacturing carried out for at least 50 participants	0	0	100,000	130,000	100,000	UNDP	Service contracts	25,000
								UNDP	Consultancy local	60,000
								UNDP	Consultancy international	120,000
								UNDP	Travel	15,000
								UNDP	Consultancy companies	110,000
		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	0	0	185,000	185,000	0	UNDP	Service contracts	15,000
								UNDP	Consultancy local	25,000
								UNDP	Consultancy international	40,000
								UNDP	Travel	10,000
								UNDP	Consultancy companies	250,000
								UNDP	Communication and visibility	30,000
		3.1.3 Development of incentive mechanisms to ensure sustainability and replicability of GC initiative in the manufacturing industry	0	0	0	100,000	0	UNDP	Consultancy local	30,000
								UNDP	Consultancy international	50,000
								UNDP	Service contracts	10,000
								UNDP	Travel	10,000

					Sub-Total for Activity 3					
	4. Management and disposal of PCBs and POPs from abandoned industrial premises	4.1.1 All the abandoned industrial sites inspected and listed in a data base	60,500	39,500	0	0	0	UNDP	Consultancy local	13,500
								UNDP	Travel	8,000
								UNDP	Consultancy companies	74,000
		4.1.2 Environmental management plan (EMP) drafted and approved for at least 3 POPs contaminated sites	0	120,000	80,000	0	0	UNDP	Service contracts	20,000
								UNDP	Travel	20,000
								UNDP	Communication and visibility	20,000
								UNDP	Consultancy companies	140,000
		4.1.3 At least 50 tons of POPs containing waste or equipment disposed of	0	0	140,000	160,000	0	UNDP	Service contracts	20,000
								UNDP	Consultancy local	45,000
								UNDP	Consultancy international	30,000
								UNDP	Consultancy companies	160,000
								UNDP	Communication and visibility	25,000
								UNDP	Travel	20,000
					Sub-Total for Activity 4					
	5. Monitoring, learning, adaptive feedback, outreach and evaluation	5.1.1 Adaptive management applied, lessons-learned, best practices and experiences collected and disseminated at national and regional level to support replication	10,000	30,000	30,000	15,000	15,000	UNDP	Service contracts	17,000
								UNDP	Trainings, workshops meetings	9,000
								UNDP	Communication and visibility	5,000
								UNDP	Consultancy companies	54,000
								UNDP	Travel	15,000

						Sub-Total for Activity 5						100,000
	Sub-total project costs		251,700	519,000	1,437,500	1,641,800	340,000					4,190,000
	Project management and quality assurance	Project management and quality assurance	101,990	101,990	101,990	101,990	101,990					509,950
	Evaluation	Evaluation			30,000		30,000					60,000
	General Management Support	GMS 8%										380,796
		TOTAL										5,140,746

VIII. GOVERNANCE AND MANAGEMENT ARRANGEMENTS

1. Management Arrangements

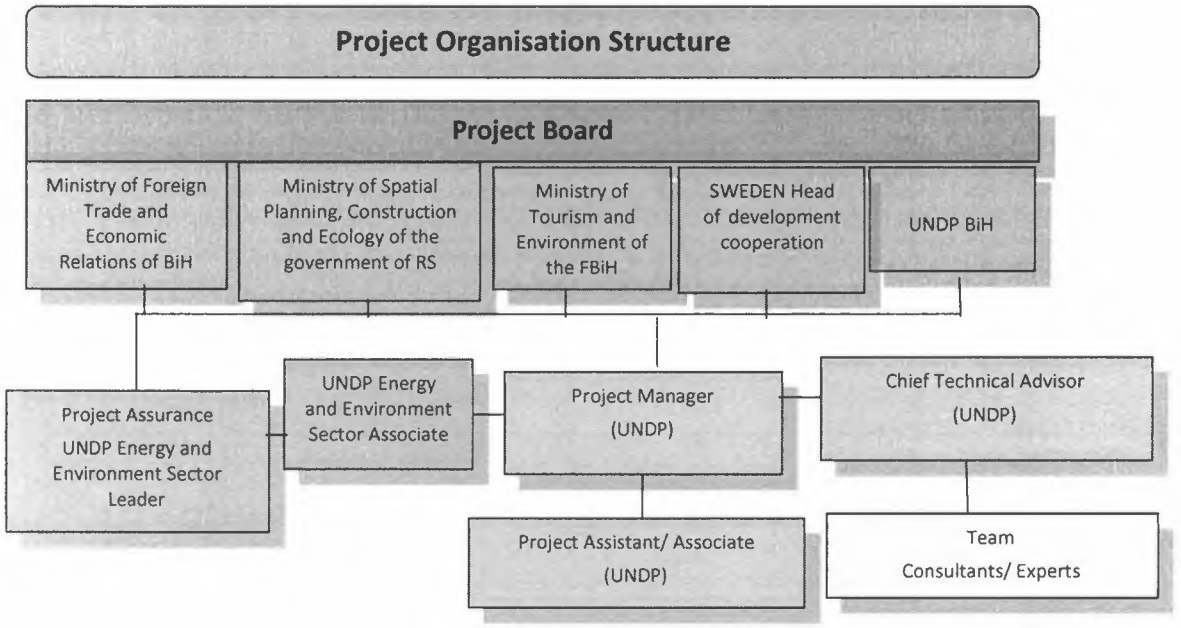
The project will be implemented following UNDP's Direct Implementation Modality (DIM), according to the Standard Basic Assistance Agreement between UNDP and the Government of *B&H* (SBAA of 7 December 1995). The **Implementing Partner** for this project is *UNDP.* The Implementing Partner is responsible 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 will ensure 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. In case a consensus cannot be reached within the Board, 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:

1) Ministry of Foreign Trade and Economic Relations of Bosnia and Herzegovina (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 organisation structure is as follows:



Project Management and project team

The **UNDP** will be accountable for effective and impartial fiduciary management and financial reporting. It will receive donor contributions, disburse funds as per defined activities and consolidate periodic financial reports and final financial report. It will also be accountable for coordination of programmatic activities, including coordination and compiling the annual work plan and narrative reports, monitoring of targets, calling and reporting on Project Board meetings, facilitating evaluations, and reporting back to the Project Board.

The **Project Manager** will run the project on a day-to-day basis on behalf of the Implementing Partner within the constraints laid down by the Board. The Project Manager function will end when the final project evaluation report and other documentation required by the Donor and UNDP, has been completed and submitted to UNDP (including operational closure of the project). Besides, Project Manager will ensure that all project staff maintain a high level of transparency, responsibility and accountability in their day-to-day work. Along with that, the Project manager will ensure synergy with all ongoing relevant projects within the standard activities of information sharing and networking in order to achieve more effective impact of Project. The Project manager will be fully and exclusively engaged in the implementation of this Project only.

The project personnel are selected on a competitive basis in accordance with the relevant UNDP rules and procedures. The Chief Technical Advisor will be responsible for providing technical support to the Project manager in order to ensure smooth implementation of the Project. These tasks refer both to the provision of support relevant for operational management of the Project as well as assuring the high-quality outputs of activities implemented within the Project. To assure efficient and effective implementation of the Project, Chief Technical Advisor will be, the same as Project manager, fully and we exclusively engaged in the implementation of this project only.

Other expertise and resources

The project deploys expertise in various fields as the need arises, in accordance to project activities. Equipment and vehicles are already in place. Accordingly, no financial resources from SWEDEN will be invested in purchasing of new equipment or assets.

The Project Assurance role will be fully provided by UNDP Country office Energy and Environment Sector Leader and Energy and Environment Programme Associate. In particular, the Energy and Environment Sector Leader will take primary responsibility for overseeing project implementation and regularly communicating the results of oversight work to relevant and concerned parties, the Government and other project partners. In addition, the Energy and Environment Sector Associate will provide quality assurance of the implementation of the Project and narrative, and financial reports on behalf of the Energy and Environment Sector.

IX. LEGAL CONTEXT

This project document shall be the instrument referred to as such in Article 1 of the Standard Basic Assistance Agreement between the Government of Bosnia and Herzegovina and UNDP, signed on 07 December 1995. All references in the SBAA to "Executing Agency" shall be deemed to refer to "Implementing Partner."

The United Nations Development Assistance Framework in Bosnia and Herzegovina for the period 2015-2019 (signed by the Council of Ministers of Bosnia and Herzegovina and UN on 15 June 2015), as well as the current UNDP Country Programme Document 2015-2019 represent the basis for the activities of UNDP in the country.

X. RISK MANAGEMENT

This project will be implemented by UNDP ("Implementing Partner") in accordance with Financial Regulations and Rules of UNDP.

1. UNDP as the Implementing Partner will comply with the policies, procedures and practices of the United Nations Security Management System (UNSMS.)
2. UNDP as the Implementing Partner will undertake all reasonable efforts to ensure that none of the project funds are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by UNDP hereunder do not appear on the list maintained by the Security Council Committee established pursuant to resolution 1267 (1999). The list can be accessed via http://www.un.org/sc/committees/1267/aq_sanctions_list.shtml. This provision must be included in all sub-contracts or sub-agreements entered into under this Project Document.
3. Social and environmental sustainability will be enhanced through application of the UNDP Social and Environmental Standards (http://www.undp.org/ses) and related Accountability Mechanism (http://www.undp.org/secu-srm).
4. UNDP as the Implementing Partner will: (a) conduct project and programme-related activities in a manner consistent with the UNDP Social and Environmental Standards, (b) implement any management or mitigation plan prepared for the project or programme to comply with such standards, and (c) engage in a constructive and timely manner to address any concerns and complaints raised through the Accountability Mechanism. UNDP will seek to ensure that communities and other project stakeholders are informed of and have access to the Accountability Mechanism.
5. All signatories to the Project Document shall cooperate in good faith with any exercise to evaluate any programme or project-related commitments or compliance with the UNDP Social and Environmental Standards. This includes providing access to project sites, relevant personnel, information, and documentation.
6. UNDP as the Implementing Partner will ensure that the following obligations are binding on each responsible party, subcontractor and sub-recipient:
    a. Consistent with the Article III of the SBAA *[or the Supplemental Provisions to the Project Document]*, the responsibility for the safety and security of each responsible party, subcontractor and sub-recipient and its personnel and property, and of UNDP's property in such responsible party's, subcontractor's and sub-recipient's custody, rests with such responsible party, subcontractor and sub-recipient. To this end, each responsible party, subcontractor and sub-recipient shall:
        i. put in place an appropriate security plan and maintain the security plan, taking into account the security situation in the country where the project is being carried;
        ii. assume all risks and liabilities related to such responsible party's, subcontractor's and sub-recipient's security, and the full implementation of the security plan.
    b. UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. Failure to maintain and implement an appropriate security plan as required hereunder shall be deemed a breach of the

responsible party's, subcontractor's and sub-recipient's obligations under this Project Document.

c. Each responsible party, subcontractor and sub-recipient will take appropriate steps to prevent misuse of funds, fraud or corruption, by its officials, consultants, subcontractors and sub-recipients in implementing the project or programme or using the UNDP funds. It will ensure that its financial management, anti-corruption and anti-fraud policies are in place and enforced for all funding received from or through UNDP.

d. The requirements of the following documents, then in force at the time of signature of the Project Document, apply to each responsible party, subcontractor and sub-recipient: (a) UNDP Policy on Fraud and other Corrupt Practices and (b) UNDP Office of Audit and Investigations Investigation Guidelines. Each responsible party, subcontractor and sub-recipient agrees to the requirements of the above documents, which are an integral part of this Project Document and are available online at www.undp.org.

e. In the event that an investigation is required, UNDP will conduct investigations relating to any aspect of UNDP programmes and projects. Each responsible party, subcontractor and sub-recipient will provide its full cooperation, including making available personnel, relevant documentation, and granting access to its (and its consultants', subcontractors' and sub-recipients') premises, for such purposes at reasonable times and on reasonable conditions as may be required for the purpose of an investigation. Should there be a limitation in meeting this obligation, UNDP shall consult with it to find a solution.

f. Each responsible party, subcontractor and sub-recipient will promptly inform UNDP as the Implementing Partner in case of any incidence of inappropriate use of funds, or credible allegation of fraud or corruption with due confidentiality.

   Where it becomes aware that a UNDP project or activity, in whole or in part, is the focus of investigation for alleged fraud/corruption, each responsible party, subcontractor and sub-recipient will inform the UNDP Resident Representative/Head of Office, who will promptly inform UNDP's Office of Audit and Investigations (OAI). It will provide regular updates to the head of UNDP in the country and OAI of the status of, and actions relating to, such investigation.

g. UNDP will be entitled to a refund from the responsible party, subcontractor or sub-recipient of any funds provided that have been used inappropriately, including through fraud or corruption, or otherwise paid other than in accordance with the terms and conditions of this Project Document. Such amount may be deducted by UNDP from any payment due to the responsible party, subcontractor or sub-recipient under this or any other agreement. Recovery of such amount by UNDP shall not diminish or curtail any responsible party's, subcontractor's or sub-recipient's obligations under this Project Document.

   Where such funds have not been refunded to UNDP, the responsible party, subcontractor or sub-recipient agrees that donors to UNDP (including the Government) whose funding is the source, in whole or in part, of the funds for the activities under this Project Document, may seek recourse to such responsible party, subcontractor or sub-recipient for the recovery of any funds determined by UNDP to have been used inappropriately, including through fraud or corruption, or otherwise paid other than in accordance with the terms and conditions of the Project Document.

Note: The term "Project Document" as used in this clause shall be deemed to include any relevant subsidiary agreement further to the Project Document, including those with responsible parties, subcontractors and sub-recipients.

h. Each contract issued by the responsible party, subcontractor or sub-recipient in connection with this Project Document shall include a provision representing that no fees, gratuities, rebates, gifts, commissions or other payments, other than those shown in the proposal, have been given, received, or promised in connection with the selection process or in contract execution, and that the recipient of funds from it shall cooperate with any and all investigations and post-payment audits.

i. Should UNDP refer to the relevant authorities in BiH for appropriate legal action any alleged wrongdoing relating to the project or programme, the Government will ensure that the relevant authorities in BiH shall actively investigate the same and take appropriate legal action against all individuals found to have participated in the wrongdoing, recover and return any recovered funds to UNDP.

j. Each responsible party, subcontractor and sub-recipient shall ensure that all of its obligations set forth under this section entitled "Risk Management" are passed on to its subcontractors and sub-recipients and that all the clauses under this section entitled "Risk Management Standard Clauses" are adequately reflected, *mutatis mutandis*, in all its sub-contracts or sub-agreements entered into further to this Project Document.

XI. ANNEXES

1. **Project Quality Assurance Report**
2. **Social and Environmental Screening of the Project**
3. **Results Framework**
4. **Terms of Reference for Project Board, Project Manager, Chief Technical Advisor and Project Assistant**

1. Social and Environmental Screening Template

Annex [#]. Social and Environmental Screening Template

The completed template, which constitutes the Social and Environmental Screening Report, must be included as an annex to the Project Document. Please refer to the Social and Environmental Screening Procedure and Toolkit for guidance on how to answer the 6 questions.

Project Information

Project Information	
1. Project Title	Environmentally Sound Management of POPs in industrial and hazardous waste sectors
2. Project Number	00109129
3. Location (Global/Region/Country)	Bosnia and Herzegovina

Part A. Integrating Overarching Principles to Strengthen Social and Environmental Sustainability

QUESTION 1: How Does the Project Integrate the Overarching Principles in order to Strengthen Social and Environmental Sustainability?
Briefly describe in the space below how the Project mainstreams the human-rights based approach

Following 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, Bosnia and Herzegovina (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.

The proposed project is focused on preventing release of POPs in the environment through improvement of health care waste management, implementation of green chemistry initiatives in industry and agriculture, and destruction of identified PCBs/POPs waste stockpiles. POPs substances targeted by this project (PCDD/Fs, C-PBDE, Deca PBDE, short chain chlorinated paraffins, PCBs in the dielectric fluid of electrical equipment, and other relevant obsolete POPs materials/stockpiles), pose a global threat to 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.

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

The project shall generate interest and involvement of respective stakeholders. This is envisaged through participation of stakeholders in the environmentally sound management of POPs in healthcare institutions, industrial and hazardous waste sectors in BiH will be engaged in the project`s development and implementation, through appropriate consultation mechanisms- Through workshops and awareness raising events stakeholders will be enabled to participate in the decision-making process as during the project formulation so during its implementation, express their opinions on the project and its intended activities. Project efforts will contribute to enhancing the knowledge of the wider public on POPs and U-POPs and their influence on human health by disseminating project results, documenting trainings and conferences and by producing educative materials, therefore respecting the right to be informed on environmental issues enriched in many constitutions, human rights legislation and conventions.

Briefly describe in the space below how the Project is likely to improve gender equality and women's empowerment

The project PPG phase will assess gender aspects of the healthcare waste and POPs management practices in industrial and hazardous waste sectors, ensure the participation and representation and buy-in of vulnerable groups. Special attention will be 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 will make 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 will be implemented in a manner that ensures equal participation by women and men in all activities and project structures. Wherever possible, subject to project preparation, gender-disaggregated indicators will be included in the project's monitoring and evaluation plans.

Briefly describe in the space below how the Project mainstreams environmental sustainability

The proposed project is aimed at reducing the risk for people's health and the environment in the country through prevention of U-POPs releases, reduction of the use and release of chemicals. Moreover, attempts will be made to create the enabling environment for the POPs and U-POPs management and monitoring in the country.

The project design bestows significant attention to environmental sustainability by building capacities for harmonization of the POPs related legislation in the country, introducing the Green Chemistry approach in the manufacturing industry, establishing management and disposal practices of PCBs and POPs from

abandoned industrial premises. The project paradigm is to create, through capacity building, development and enforcement of regulation, communication, technical guidance, a critical mass which will become self-sustainable in a short time. The self-sustainability is evidenced in implementation of the Green Chemistry principles in plastic manufacturing, thus ensuring sustainability and replicability of the green chemistry approach in the manufacturing industry. One of the aims of the project is also to ensure the scaling up of Green Chemistry initiatives capable to reduce the use and generation of POPs and will be pursued through trainings in manufacturing sector and development of incentive mechanisms to ensure sustainability and replicability.

Part B. Identifying and Managing Social and Environmental Risks

QUESTION 2: What are the Potential Social and Environmental Risks? *Note: Describe briefly potential social and environmental risks identified in Attachment 1 – Risk Screening Checklist (based on any "Yes" responses). If no risks have been identified in Attachment 1 then note "No Risks Identified" and skip to Question 4 and Select "Low Risk". Questions 5 and 6 not required for Low Risk Projects.*	**QUESTION 3: What is the level of significance of the potential social and environmental risks?** *Note: Respond to Questions 4 and 5 below before proceeding to Question 6*			**QUESTION 6: What social and environmental assessment and management measures have been conducted and/or are required to address potential risks (for Risks with Moderate and High Significance)?**
Risk Description	***Impact and Probability (1-5)***	***Significance (Low, Moderate, High)***	***Comments***	***Description of assessment and management measures as reflected in the Project design. If ESIA or SESA is required note that the assessment should consider all potential impacts and risks.***
Risk 1: The authorities, civil servants and other stakeholders may lack the knowledge and skills necessary for the sound environmental management of chemicals	I = 2 P = 3	**Low**		*An awareness-raising and training plan will be developed and implemented so that relevant authorities and civil servants working on chemicals and waste management have the necessary knowledge to properly perform their tasks.*
[add additional rows as needed]				

QUESTION 4: What is the overall Project risk categorization?		
Select one (see SESP for guidance)		**Comments**
Low Risk	**X**	

	Moderate Risk	☐	
	High Risk	☐	
	QUESTION 5: Based on the identified risks and risk categorization, what requirements of the SES are relevant?		
	Check all that apply		**Comments**
	Principle 1: Human Rights	☐	
	Principle 2: Gender Equality and Women's Empowerment	☐	
	1. Biodiversity Conservation and Natural Resource Management	☐	
	2. Climate Change Mitigation and Adaptation	☐	
	3. Community Health, Safety and Working Conditions	☐	
	4. Cultural Heritage	☐	
	5. Displacement and Resettlement	☐	
	6. Indigenous Peoples	☐	
	7. Pollution Prevention and Resource Efficiency	☐	

Final Sign Off

Signature	*Date*	*Description*
QA Assessor Alisa Grabus, Programme Associate		UNDP staff member responsible for the Project, typically a UNDP Programme Officer. Final signature confirms they have "checked" to ensure that the SESP is adequately conducted.
QA Approver Sanjin Avdic, EE Sector Leader		UNDP senior manager, typically the UNDP Deputy Country Director (DCD), Country Director (CD), Deputy Resident Representative (DRR), or Resident Representative (RR). The QA Approver cannot also be the QA Assessor. Final signature confirms they have "cleared" the SESP prior to submittal to the PAC.
LPAC Chair Sanjin Avdic, EE Sector Leader		UNDP chair of the PAC. In some cases, PAC Chair may also be the QA Approver. Final signature confirms that the SESP was considered as part of the project appraisal and considered in recommendations of the PAC.

2. SESP Attachment 1. Social and Environmental Risk Screening Checklist

Checklist Potential Social and Environmental Risks		
Principles 1: Human Rights		**Answer (Yes/No)**
1.	Could the Project lead to adverse impacts on enjoyment of the human rights (civil, political, economic, social or cultural) of the affected population and particularly of marginalized groups?	No
2.	Is there a likelihood that the Project would have inequitable or discriminatory adverse impacts on affected populations, particularly people living in poverty or marginalized or excluded individuals or groups? [15]	No
3.	Could the Project potentially restrict availability, quality of and access to resources or basic services, in particular to marginalized individuals or groups?	No
4.	Is there a likelihood that the Project would exclude any potentially affected stakeholders, in particular marginalized groups, from fully participating in decisions that may affect them?	No
5.	Is there a risk that duty-bearers do not have the capacity to meet their obligations in the Project?	No
6.	Is there a risk that rights-holders do not have the capacity to claim their rights?	No
7.	Have local communities or individuals, given the opportunity, raised human rights concerns regarding the Project during the stakeholder engagement process?	No
8.	Is there a risk that the Project would exacerbate conflicts among and/or the risk of violence to project-affected communities and individuals?	No
Principle 2: Gender Equality and Women's Empowerment		
1.	Is there a likelihood that the proposed Project would have adverse impacts on gender equality and/or the situation of women and girls?	No
2.	Would the Project potentially reproduce discriminations against women based on gender, especially regarding participation in design and implementation or access to opportunities and benefits?	No
3.	Have women's groups/leaders raised gender equality concerns regarding the Project during the stakeholder engagement process and has this been included in the overall Project proposal and in the risk assessment?	No
4.	Would the Project potentially limit women's ability to use, develop and protect natural resources, taking into account different roles and positions of women and men in accessing environmental goods and services? *For example, activities that could lead to natural resources degradation or depletion in communities who depend on these resources for their livelihoods and well being*	No
Principle 3: Environmental Sustainability: Screening questions regarding environmental risks are encompassed by the specific Standard-related questions below		
Standard 1: Biodiversity Conservation and Sustainable Natural Resource Management		
1.1	Would the Project potentially cause adverse impacts to habitats (e.g. modified, natural, and critical habitats) and/or ecosystems and ecosystem services? *For example, through habitat loss, conversion or degradation, fragmentation, hydrological changes*	No
1.2	Are any Project activities proposed within or adjacent to critical habitats and/or environmentally sensitive areas, including legally protected areas (e.g. nature reserve, national park), areas proposed for protection, or recognized as such by authoritative sources and/or indigenous peoples or local communities?	No
1.3	Does the Project involve changes to the use of lands and resources that may have adverse impacts on habitats, ecosystems, and/or livelihoods? (Note: if restrictions and/or limitations of access to lands would apply, refer to Standard 5)	No

[15] Prohibited grounds of discrimination include race, ethnicity, gender, age, language, disability, sexual orientation, religion, political or other opinion, national or social or geographical origin, property, birth or other status including as an indigenous person or as a member of a minority. References to "women and men" or similar is understood to include women and men, boys and girls, and other groups discriminated against based on their gender identities, such as transgender people and transsexuals.

1.4	Would Project activities pose risks to endangered species?	No
1.5	Would the Project pose a risk of introducing invasive alien species?	No
1.6	Does the Project involve harvesting of natural forests, plantation development, or reforestation?	No
1.7	Does the Project involve the production and/or harvesting of fish populations or other aquatic species?	No
1.8	Does the Project involve significant extraction, diversion or containment of surface or ground water? *For example, construction of dams, reservoirs, river basin developments, groundwater extraction*	No
1.9	Does the Project involve utilization of genetic resources? (e.g. collection and/or harvesting, commercial development)	No
1.10	Would the Project generate potential adverse transboundary or global environmental concerns?	No
1.11	Would the Project result in secondary or consequential development activities which could lead to adverse social and environmental effects, or would it generate cumulative impacts with other known existing or planned activities in the area? *For example, a new road through forested lands will generate direct environmental and social impacts (e.g. felling of trees, earthworks, potential relocation of inhabitants). The new road may also facilitate encroachment on lands by illegal settlers or generate unplanned commercial development along the route, potentially in sensitive areas. These are indirect, secondary, or induced impacts that need to be considered. Also, if similar developments in the same forested area are planned, then cumulative impacts of multiple activities (even if not part of the same Project) need to be considered.*	No
Standard 2: Climate Change Mitigation and Adaptation		
2.1	Will the proposed Project result in significant[16] greenhouse gas emissions or may exacerbate climate change?	No
2.2	Would the potential outcomes of the Project be sensitive or vulnerable to potential impacts of climate change?	No
2.3	Is the proposed Project likely to directly or indirectly increase social and environmental vulnerability to climate change now or in the future (also known as maladaptive practices)? *For example, changes to land use planning may encourage further development of floodplains, potentially increasing the population's vulnerability to climate change, specifically flooding*	No
Standard 3: Community Health, Safety and Working Conditions		
3.1	Would elements of Project construction, operation, or decommissioning pose potential safety risks to local communities?	No
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)?	No
3.3	Does the Project involve large-scale infrastructure development (e.g. dams, roads, buildings)?	No
3.4	Would failure of structural elements of the Project pose risks to communities? (e.g. collapse of buildings or infrastructure)	No
3.5	Would the proposed Project be susceptible to or lead to increased vulnerability to earthquakes, subsidence, landslides, erosion, flooding or extreme climatic conditions?	No
3.6	Would the Project result in potential increased health risks (e.g. from water-borne or other vector-borne diseases or communicable infections such as HIV/AIDS)?	No
3.7	Does the Project pose potential risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during Project construction, operation, or decommissioning?	No
3.8	Does the Project involve support for employment or livelihoods that may fail to comply with national and international labour standards (i.e. principles and standards of ILO fundamental conventions)?	No
3.9	Does the Project engage security personnel that may pose a potential risk to health and safety of communities and/or individuals (e.g. due to a lack of adequate training or accountability)?	No
Standard 4: Cultural Heritage		

[16] In regard to CO_2, 'significant emissions' corresponds generally to more than 25,000 tons per year (from both direct and indirect sources). [The Guidance Note on Climate Change Mitigation and Adaptation provides additional information on GHG emissions.]

4.1	Will the proposed Project result in interventions that would potentially adversely impact sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture (e.g. knowledge, innovations, practices)? (Note: Projects intended to protect, and conserve Cultural Heritage may also have inadvertent adverse impacts)	No
4.2	Does the Project propose utilizing tangible and/or intangible forms of cultural heritage for commercial or other purposes?	No
Standard 5: Displacement and Resettlement		
5.1	Would the Project potentially involve temporary or permanent and full or partial physical displacement?	No
5.2	Would the Project possibly result in economic displacement (e.g. loss of assets or access to resources due to land acquisition or access restrictions – even in the absence of physical relocation)?	No
5.3	Is there a risk that the Project would lead to forced evictions?[17]	No
5.4	Would the proposed Project possibly affect land tenure arrangements and/or community-based property rights/customary rights to land, territories and/or resources?	No
Standard 6: Indigenous Peoples		
6.1	Are indigenous peoples present in the Project area (including Project area of influence)?	No
6.2	Is it likely that the Project or portions of the Project will be located on lands and territories claimed by indigenous peoples?	No
6.3	Would the proposed Project potentially affect the human rights, lands, natural resources, territories, and traditional livelihoods of indigenous peoples (regardless of whether indigenous peoples possess the legal titles to such areas, whether the Project is located within or outside of the lands and territories inhabited by the affected peoples, or whether the indigenous peoples are recognized as indigenous peoples by the country in question)? *If the answer to the screening question 6.3 is "yes" the potential risk impacts are considered potentially severe and/or critical and the Project would be categorized as either Moderate or High Risk.*	No
6.4	Has there been an absence of culturally appropriate consultations carried out with the objective of achieving FPIC on matters that may affect the rights and interests, lands, resources, territories and traditional livelihoods of the indigenous peoples concerned?	No
6.5	Does the proposed Project involve the utilization and/or commercial development of natural resources on lands and territories claimed by indigenous peoples?	No
6.6	Is there a potential for forced eviction or the whole or partial physical or economic displacement of indigenous peoples, including through access restrictions to lands, territories, and resources?	No
6.7	Would the Project adversely affect the development priorities of indigenous peoples as defined by them?	No
6.8	Would the Project potentially affect the physical and cultural survival of indigenous peoples?	No
6.9	Would the Project potentially affect the Cultural Heritage of indigenous peoples, including through the commercialization or use of their traditional knowledge and practices?	No
Standard 7: Pollution Prevention and Resource Efficiency		
7.1	Would the Project potentially result in the release of pollutants to the environment due to routine or non-routine circumstances with the potential for adverse local, regional, and/or transboundary impacts?	No
7.2	Would the proposed Project potentially result in the generation of waste (both hazardous and non-hazardous)?	No
7.3	Will the proposed Project potentially involve the manufacture, trade, release, and/or use of hazardous chemicals and/or materials? Does the Project propose use of chemicals or materials subject to international bans or phase-outs? *For example, DDT, PCBs and other chemicals listed in international conventions such as the Stockholm Conventions on Persistent Organic Pollutants or the Montreal Protocol*	No

[17] Forced evictions include acts and/or omissions involving the coerced or involuntary displacement of individuals, groups, or communities from homes and/or lands and common property resources that were occupied or depended upon, thus eliminating the ability of an individual, group, or community to reside or work in a particular dwelling, residence, or location without the provision of, and access to, appropriate forms of legal or other protections.

7.4	Will the proposed Project involve the application of pesticides that may have a negative effect on the environment or human health?	No
7.5	Does the Project include activities that require significant consumption of raw materials, energy, and/or water?	No

3. Terms of Reference for Project Board, Project Manager, Chief Technical Advisor and Project Assistant

ToR – Project Board

- A Project Board will be established at the inception phase of the Project to monitor project progress, guide project implementation and support the Project in achieving its listed outputs and outcomes.
- Project Board will be chaired by UNDP. The Project Board will involve the representatives of the Council of Ministers of BiH through the Ministry for Foreign Trade and Economic Relations, which oversees environmental issues at the country level. It will also include two entity-level ministries (the Ministry of Spatial Planning, Civil Engineering, and Ecology of RS and the Federal Ministry of Environment) and Embassy of Sweden in BiH.
- Other participants can be invited into the Board meetings at the decision of the Board.
- The Board will meet regularly (at least twice a year) to review project progress, discuss and agree on project work plans. One of the key tasks of the Board will be to ensure coordination and synchronization among activities planned to be implemented within the Project; namely to coordinate activities aimed at: development of harmonized POPs related legislation among entity and BiH level as well as their harmonization with EU standards in the field; establishment of capacity for proper health care waste management, proper adoption of green chemistry principles in the industry and agriculture along with destruction of identified POPs waste stockpiles. In this respect, the Board will serve as a platform for key project stakeholders and beneficiaries to regularly get together and design a joint strategy of work on the Project.
- The final list of the Project Board members will be completed at the outset of project operations and presented in the Inception Report by considering the envisaged role of different parties in the Board. The Project Manager will participate as a non-voting member in the Board meetings and will also be responsible for compiling a summary report of the discussions and conclusions of each meeting.
- The day-to-day management of the project will be carried out by a Project Manager under the overall guidance of the Project Board.

ToR – Project Manager

In consultation with the Project Board, the Project Manager (PM) is responsible for day-to-day management, co-ordination and supervision of the implementation of the Project. Specifically, his\her responsibilities are but not limited to the following:

- Supervises and ensures the timely implementation of the project relevant activities as scheduled in the working plan
- Prepares a detailed work plan for the project and draft terms of reference for the subcontracts (in cooperation with Chief Technical Advisor and in consultation with the Project Board and UNDP);
- Develops the scope of the work and ToRs and other procurement documentation required to identify and facilitate recruitment of experts and consultants;
- Identifies and hire/subcontract the local experts and institutions (in cooperation with Chief Technical Advisor and in consultation with the Project Board and UNDP);
- In cooperation with Chief Technical Advisor, supervise project support staff local consultants who are recruited to provide technical assistance
- In cooperation with Chief Technical Advisor, organizes and supervise the workshops and training needed during the Project;

- Liaises with the relevant ministries, local and international research institutes, NGOs, and other relevant institutions in order to involve their staff in project activities, and to gather and disseminate information relevant to the Project;
- With the support of Chief Technical Advisor, prepares periodic progress reports of the Project;
- Control the expenditures and otherwise ensure adequate management of the resources provided for the Project;
- In cooperation with Chief Technical Advisor, summarizes and synthesizes the results of the Project;
- Identifies the follow up activities and mobilizes other resources at the extent possible;
- Identifies and ensures synergy with other relevant ongoing / new projects.
- Collaborates with all relevant stakeholders and the Project Board and other partners to ensure their involvement in the project's activities

Qualifications and Experience

- Preferably master's degree in engineering, chemistry, environment and other related disciplines;
- Excellent understanding of environment/development issues in BiH;
- At least 7 years' experience relevant to the Project;
- Excellent communication (Written and Oral) Skills;
- Demonstrated experience in project management;
- Expertise in putting together costed, results-oriented action plans;
- Demonstrated experience in working with government, donors and the United Nations system;
- Substantial involvement in the preparation of the strategic and legislative documents relevant for environmental protection and chemicals management in BiH is an asset
- Substantial knowledge of Multilateral Environmental Agreements (MEAs) such as Stockholm Convention and Basel Convention and EU legislation relevant for chemicals management;
- A demonstrated ability in managing projects, and in liaising and co-operating with all project personnel including government officials, scientific institutions, NGOs, and private sector;
- Excellent knowledge of English.

ToR – Chief Technical Advisor

In consultation with the Project Board, the Chief Technical Advisor is responsible for providing of technical support to the Project manager. Specifically, his\her responsibilities are but not limited to the following:

- In cooperation with Project Manager, supervises and ensures the timely implementation of the project relevant activities as scheduled in the working plan
- Prepares a detailed work plan for the project and draft terms of reference for the subcontracts (in cooperation with Project Manager and in consultation with the Project Board and UNDP;
- In cooperation with Project Manager, develops the scope of the work and ToRs and other procurement documentation required to identify and facilitate recruitment of experts and consultants;
- Identifies and hire/subcontract the local experts and institutions (in cooperation with Project Manager and in consultation with the Project Board and UNDP);
- In cooperation with Project Manager, supervise local consultants who are recruited to provide technical assistance
- In cooperation with Project Manager, organizes and supervise the workshops and trainings needed during the Project;
- Liaises with the relevant ministries, local and international research institutes, NGOs, and other relevant institutions in order to involve their staff in project activities, and to gather and disseminate information relevant to the Project;
- In cooperation with Project Manager, prepares periodic progress reports of the Project;

- In cooperation with Project Manager, summarizes and synthesizes the results of the Project;
- Identifies the follow up activities and mobilizes other resources at the extent possible;
- Identifies and ensures synergy with other relevant ongoing / new projects.
- Collaborates with all relevant stakeholders and the Project Board and other partners to ensure their involvement in the project's activities

Qualifications and Experience

- Preferably master's degree in chemicals related studies and other related disciplines;
- Overall understanding of environment/development issues in BiH as well as the thematic areas-chemicals, hazardous waste treatment, Stockholm Convention, Basel Convention and EU legislation covering these thematic areas
- At least 5 years' experience relevant to the Project;
- Excellent communication (Written and Oral) Skills;
- Expertise in putting together costed, results-oriented action plans;
- Demonstrated experience in working with government, donors and the United Nations system;
- Knowledge of the Stockholm Convention and its requirements is mandatory
- Substantial knowledge of chemicals
- A demonstrated ability in co-operating with all project personnel including government officials, scientific institutions, NGOs, and private sector;
- Excellent knowledge of English.

ToR for Project Assistant

The Project Assistant will work under the direct supervision of the Project Manager and provide assistance to project implementation in the mobilization of inputs, the organization of training activities and financial management and reporting.

The Project Assistant will be responsible for the following duties:

Manage the day to day operations of the Project implementation unit, particularly with respect to the provision of technical services and support

- Assist the Project Manager in the implementation of technical and operational activities for the preparation of the outputs of the Project.
- Technical review and provision of support information on chemical management studies, projects and initiatives that may contribute to the Project activities.
- Prepare the terms of reference for the international and local consultants and experts to be hired for the implementation of the Project
- Assist the Project Manager in the selection process of the consultants to be hired by the Project according to the rules and procedures established by UNDP.
- Participate in the planning, organization and execution of Project activities.
- Organize and coordinate seminars, training activities, workshops, site visits and other exchange and facilitation events for stakeholders.
- Organize and coordinate information exchanges both internationally and between participating institutions.
- Participate in the edition of documents prepared within Project.
- Compile and/or prepare the documentation necessary for the procurement of services, goods and supplies under the Project
- Prepare administrative, technical and financial reports.
- Perform the procurement of services, goods and supplies authorized by the Project Manager.

- Prepare the payment's request as authorized by the Project Manager
- Assist the Project Manager to monitor disbursements in accordance to the Project Budget and Disbursement Plan.
- Maintain the Project's files and supporting documentation for payments.
- Undertake other administrative/ financial duties as requested by the Project Manager
- Other duties which may be required

Qualifications and Experience

- University Degree in business, economics or related fields
- At least five years of administrative experience
- Good organizational skills
- Good computer skills, including spread-sheets and software/ database
- Languages: High proficiency in English

4. Results framework

Intended Outcome as stated in the UNDAF/Country [or Global/Regional] Programme Results and Resource Framework: Outcome 5: By 2019, legal and strategic frameworks enhanced and operationalized to ensure sustainable management of natural, cultural and energy resources
Outcome indicators as stated in the Country Programme [or Global/Regional] Results and Resources Framework, including baseline and targets: 5.1 Number of adopted or adjusted legal and strategic documents that are harmonized at State and/or Entity levels
Applicable Output(s) from the UNDP Strategic Plan 2018-2021: 2.4.2 Gender-responsive legal and regulatory frameworks, policies and institutions strengthened, and solutions adopted, to address conservation, sustainable use and equitable benefit sharing of natural resources, in line with international conventions and national legislation. Indicator 1.2.1.1.1 National and sub-national governments have improved capacities to plan, budget, manage and monitor basic services,
Project title and Atlas Project Number: Environmentally Sound Management of POPs in industrial and hazardous waste sectors

EXPECTED OUTPUT	OUTPUT INDICATORS[18]	DATA SOURCE	BASELINE		TARGETS (by frequency of data collection)						DATA COLLECTION METHODS & RISKS
			Value	Year	Year 1	Year 2	Year 3	Year 4	Year 5	FINAL	

[18] *Projects should use output indicators from the Strategic Plan IRRF and from the Country Programme Document, as relevant, in addition-specific results indicators. Indicators*

Risk for people`s health and environment reduced through the prevention of unintentional persistent organic pollutants` (U-POPs) releases, shifting from POPs toward non-POPs chemicals in the plastic industry	*Waste containing persistent organic pollutants (POPs) destructed in a sound manner*	*Project reports* *Mid-term review* *Final review*	*0*	*2019*	*0*	*0*	*15*	*20*	*15*	*50*	*Programme reports (monthly); policies or other measures adopted by stakeholders*
ACTIVITY RESULTS											
1. Capacity building and mainstreaming of POPs related legislation into the process of harmonisation of the BiH environmental legislation	*1.1. Framework for the implementation of the Stockholm Convention in Bosnia and Herzegovina developed and aligned with EU accession requirements*	*Project reports* *Mid-term review* *Final Review* *Verification by the third body*	*No*	*2019*	*No*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Institutional framework for implementation of Stockholm Convention harmonized with NIP*
	1.2. Established working groups for the implementation of Stockholm Convention in accordance with National Implementation Plan (NIP)	*Project reports* *Mid-term review* *Final Review* *Verification by the third body*	*No*	*2019*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Institutional partners embrace participatory approach to decision-making on Stockholm Convention* *Institutional roles and responsibilities are clear and agreed*

	1.3. At least four POPs related decrees drafted and approved by the working groups	*Project reports* *Mid-term review* *Final Review* *Verification by the third body*	*0*	*2019*	*0*	*2*	*2*	*0*	*0*	*4*	*Limited political and institutional ownership* *Institutional roles and responsibilities are clear and agreed* *Data exchange not agreed amongst all institutions*
	1.4. Training program developed and provided for environmental decision makers	*Project reports* *Mid-term review* *Final Review* *Verification by the third body*	*No*	*2019*	*No*	*No*	*Yes*	*Yes*	*Yes*	*Yes*	
	1.5. Software/ database on POPs established	*Project reports* *Mid-term review* *Final Review*	*No*	*2019*	*No*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	
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	*2.1 Proper segregation and management of waste established*	*Project reports* *Mid-term review* *Final review* *Verification by the third body*	*No*	*2019*	*No*	*No*	*No*	*Yes*	*Yes*	*Yes*	*Public sector institutions are willing to be actively involved in project activities* *Limited interest by the private sector to engage in project activities*
	2.2 Quantity (in grams of toxic equivalents g TEq) of PCDD/F avoided through the sound management of health care waste	*Project reports* *Mid-term review* *Final review* *Verification by the third body*	*0*	*2019*	*0*	*0*	*5 gTEq*	*3 TEq*	*0*	*8 gTEq*	

	2.3. Number of people from relevant institutions and pesticide retailers trained	*Project reports* *Mid-term review* *Final review* *Verification by the third body*	*0*	*2019*	*0*	*0*	*60*	*40*	*0*	*100*	*Public sector institutions are willing to be actively involved in project activities* *Limited interest by the private sector to engage in project activities*
	2.4. Number of health care facilities included in the activities	*Project reports* *Mid-term review* *Final review* *Verification by the third body*	*0*	*2019*	*0*	*0*	*5*	*5*	*0*	*10*	
	2.5. Quantity (in grams of toxic equivalents g TEq) of PCDD/F avoided	*Project Report* *Mid-term review* *Final review* *Verification by the Third Body*	*0*	*2019*	*0*	*0*	*0*	*2 gTEq*	*0*	*2 g TEq*	
	2.6. Number of laboratories trained on the sampling and analysis of POPs and U-POPs in the environment and at the stack of industrial sources	*Project Report* *Mid-term review* *Final review* *Verification by the Third Body*	*0*	*2019*	*0*	*0*	*0*	*0*	*1*	*1*	

	2.7. Number of sampling and analysis of POPs (U-POPs in the atmosphere and POPs pesticide in soil) carried out	*Project Report Mid-term review Final review Verification by the Third Body*	*0*	*2019*	*0*	*0*	*0*	*20*	*30*	*50*	*Public sector institutions are willing to be actively involved in project activities*
	2.8. Number of employees of Custom Service trained to track illegal import of chemicals and goods contaminated by POPs	*Project Report Mid-term review Final review Verification by the Third Body*	*0*	*2019*	*0*	*0*	*20*	*0*	*0*	*20*	
3. Implementation of green chemistry principles in plastic manufacturing to prevent the use of and release of new POPs,	*3.1 Number of participants trained on green chemistry in plastic*	*Project Report Mid-term review Final review Verification by the Third Body*	*0*	*2019*	*0*	*0*	*20*	*30*	*0*	*50*	*Limited interest by the private sector to engage in project activities*

including the candidate deca PBDE and SCCP	*3.2 Quantity (in tons) of polybrominated diphenyl ethers (C-PBDE) replaced by introduction of non-POP alternative to flame retardants in plastic manufacturing*	*Project Report Mid-term review Final review Verification by the Third Body Industrial production reports*	*0*	*2019*	*0*	*0*	*5 t C-PBDE*	*5 t C-PBDE*	*0*	*10 C-PBDE*	*Limited interest by the private sector to engage in project activities*
	3.3 Quantity (in tons) of short chain chlorinated paraffins (SCCP) replaced by introduction of non-POP alternative to flame retardants in plastic manufacturing	*Project Report Mid-term review Final review Verification by the Third Body Industrial production reports*	*0*	*2019*	*0*	*0*	*5 t SCCP*	*5 t SCCP*	*0*	*10 t SCCP*	
	3.4 Incentive mechanism(s) to ensure sustainability and replicability of GC initiative in the manufacturing industry developed	*Project Report Mid-term review Final review Verification by the Third Body*	*No*	*2019*	*No*	*No*	*No*	*Yes*	*Yes*	*Yes*	*Willingness of producers to develop their production processes*
4. Management and disposal of PCBs and POPs from abandoned industrial premises	*4.1. Temporary register of contaminated areas prepared*	*Project Report Mid-term review Final review Verification by*	*No*	*2019*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	

	4.2. Number of POPs contaminated sites with drafted and approved EMP	*Project Report Mid-term review Final review Verification by the Third Body*	*0*	*2019*	*0*	*2*	*1*	*0*	*0*	*3*	
	4.3. Quantity (in tons) of POPs containing waste or equipment disposed of	*Project Report Mid-term review*	*0*	*2019*	*0*	*0*	*0*	*50*	*0*	*50*	
	4.4. Quantity (in tons) of PCBs/PCB- contaminated materials and waste disposed of	*Project Report Mid-term review Final review Verification by the Third Body*	*0*	*2019*	*0*	*0*	*0*	*50*	*0*	*50*	