



Supporting a Green Economy - Decoupling Hazardous Waste Generation from Economic Growth in Rwanda

Part I: Project Information

GEF ID

10373

Project Type

FSP

Type of Trust Fund

GET

CBIT/NGI

CBIT **No**

NGI **No**

Project Title

Supporting a Green Economy - Decoupling Hazardous Waste Generation from Economic Growth in Rwanda

Countries

Rwanda

Agency(ies)

UNDP

Other Executing Partner(s)

Rwanda Environment Management Authority (REMA)

Executing Partner Type

Government

GEF Focal Area

Chemicals and Waste

Taxonomy

Focal Areas, Chemicals and Waste, Emissions, Persistent Organic Pollutants, New Persistent Organic Pollutants, Polychlorinated Biphenyls, Unintentional Persistent Organic Pollutants, Industrial Emissions, Mercury, Cement, Sound Management of chemicals and waste, Pesticides, Open Burning, Best Available Technology / Best Environmental Practices, Waste Management, eWaste, Hazardous Waste Management, Industrial Waste, Disposal, Plastics, Influencing models, Demonstrate innovative approach, Transform policy and regulatory environments, Strengthen institutional capacity and decision-making, Deploy innovative financial instruments, Stakeholders, Civil Society, Academia, Non-Governmental Organization, Beneficiaries, Local Communities, Communications, Behavior change, Awareness Raising, Public Campaigns, Private Sector, SMEs, Capital providers, Large corporations, Individuals/Entrepreneurs, Type of Engagement, Information Dissemination, Partnership, Participation, Consultation, Gender Equality, Gender Mainstreaming, Women groups, Gender-sensitive indicators, Sex-disaggregated indicators, Gender results areas, Access to benefits and services, Participation and leadership, Capacity Development, Knowledge Generation and Exchange, Capacity, Knowledge and Research, Innovation

Rio Markers**Climate Change Mitigation**

Climate Change Mitigation 0

Climate Change Adaptation

Climate Change Adaptation 0

Submission Date

10/10/2019

Expected Implementation Start

1/11/2022

Expected Completion Date

1/11/2027

Duration

60In Months

Agency Fee(\$)

598,500.00

A. FOCAL/NON-FOCAL AREA ELEMENTS

Objectives/Programs	Focal Area Outcomes	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
CW-1-1	Strengthen the sound management of industrial chemicals and their waste through better control, and reduction and/or elimination	GET	3,780,000.00	21,801,500.00
CW-1-2	Strengthen the sound management of agricultural chemicals and their wastes, through better control, and reduction and/or elimination	GET	1,890,000.00	9,477,372.00
CW-2-3	Strengthen the enabling environments in LDCs and SIDs to manage harmful chemicals and waste	GET	630,000.00	2,855,059.00
Total Project Cost(\$)			6,300,000.00	34,133,931.00

B. Project description summary

Project Objective

The project aims to support the Government of Rwanda and its private and public sector in decoupling hazardous waste generation and harmful releases from economic growth by enhancing the introduction of the 4R approach (Reuse, Reduce, Recycle and Recovery) in priority industries and economic sectors, while at the same time enhancing private sector led national waste treatment capacity to ensure the sound management of wastes, generate income, create jobs and protect human health and the environment.

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
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Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
Component 1: Establishment of an enabling policy/regulatory framework to create (financial) incentives for the sound management of chemicals, the introduction of safer alternatives, minimization of hazardous waste generation and its environmental safe treatment	Technical Assistance	1: Creation/improvement of the regulatory framework, tools and (financial) incentives that allow private sector and government to improve the management of chemicals and hazardous wastes	<p>1.1: Approval of drafted PCB law facilitated</p> <p>1.2: POPs/Hg legislative/regulatory framework strengthened to support the phase-out of Hg/POPs and products that contain them, and support the introduction of safer alternatives</p> <p>1.3: Regulations/guidelines on the handling/treatment of priority hazardous waste streams developed and disseminated</p> <p>1.4: Industry incentives introduced to generate less (hazardous) waste</p> <p>1.5: Extended Producer Responsibility (EPR) framework developed and introduced to finance treatment of priority waste products/streams</p> <p>1.6: Capacity of the customs administration strengthened to identify hazardous waste at entrance</p>	GET	515,200.00	2,066,026.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
Component 2: Minimize hazardous waste generation through the introduction of safer alternatives and cleaner (production) processes in selected industries and priority sectors	Technical Assistance	<p>2: Data that contributes to a reduction in hazardous waste generation and releases from selected industries and other priority sectors achieved and safer alternatives is strengthened</p> <p>3: Technical capacities of industries and major hazardous wastes generators strengthened to develop and implement innovative and environmental best practices</p>	<p>2.1: Web-based hazardous waste inventory and database (with a focus on chemicals and waste-related Conventions) and web/phone-based monitoring tool for private sector/enforcement entities established</p> <p>3.1: Selected industries and priority economic sectors (e.g. agriculture, textile, paint, healthcare) supported in avoiding/reducing the generation of (hazardous) waste and releases through the introduction of cleaner production practices and safer alternatives (e.g. to POPs/Hg/chemicals of concern)</p>	GET	1,174,100.00	13,380,255.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
Component 3: Improve private sector and institutional capacity for the sound environmental treatment and disposal of hazardous waste streams	Technical Assistance	<p>4: Increased capacity of the private sector and government entities to sustainably handle and treat: (i) existing stockpiles of hazardous and obsolete chemicals; and (ii) various hazardous waste streams which cannot be avoided</p> <p>5: Capacity and environmental performance of hazardous wastes treatment facilities improved</p>	<p>4.1: Remaining PCB-containing equipment and oil phased out/disposed of</p> <p>4.2: One PCB-contaminated site remediated</p> <p>4.3: Obsolete POPs and non-POPs pesticides disposed of</p> <p>5.1: Potential for valorisation of priority waste streams assessed and initiated through engagement of research institutes/universities and private sector partners</p> <p>5.2: Environmental performance of existing waste treatment facilities enhanced and national treatment capacity for hazardous waste increased (volume + diversification) through the introduction of new locally suitable disposal/treatment solutions</p> <p>5.3: Capacity</p>	GET	3,866,825.00	14,950,255.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
Component 4: Raise awareness to support behavioural change, capture and disseminate experiences, lessons-learned and environmental best practices.	Technical Assistance	6: Awareness raised of 7,500 people (4,000 female and 3,500 male) on the sound management of POPs and Hg and related wastes through tailored training and awareness raising activities 7: Project results sustained and replicated	6.1: Awareness raised of 7,500 people (4,000 female and 3,500 male) on the sound management of POPs chemicals and Hg and related wastes through tailored training and awareness raising activities 7.1: Results, lessons-learned, and best practices captured in knowledge products and disseminated at national, regional, and global level to support replication (including development and implementation of an awareness raising and knowledge management plan) 7.2: M&E and adaptive management applied in response to needs and Mid-term Evaluation findings	GET	443,875.00	2,287,395.00
Sub Total (\$)					6,000,000.00	32,683,931.00

Project Management Cost (PMC)

GET	300,000.00	1,450,000.00
Sub Total(\$)	300,000.00	1,450,000.00
Total Project Cost(\$)	6,300,000.00	34,133,931.00

C. Sources of Co-financing for the Project by name and by type

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
GEF Agency	UNDP TRAC	Grant	Investment mobilized	500,000.00
Recipient Country Government	REMA	In-kind	Recurrent expenditures	5,099,580.00
Recipient Country Government	Ministry of Environment (MoE)	In-kind	Recurrent expenditures	1,000,000.00
Recipient Country Government	CPCIC/NIRDA	Grant	Investment mobilized	450,000.00
Recipient Country Government	CPCIC/NIRDA	In-kind	Recurrent expenditures	200,000.00
Recipient Country Government	City of Kigali	Equity	Recurrent expenditures	4,164,327.00
Recipient Country Government	Magerwa	In-kind	Recurrent expenditures	31,605.00
Recipient Country Government	FONERWA	In-kind	Recurrent expenditures	1,500,000.00
Recipient Country Government	City of Kigali	In-kind	Recurrent expenditures	4,000,000.00
Private Sector	Enviroserve Rwanda Green Park	Equity	Recurrent expenditures	1,000,000.00
Private Sector	Enviroserve Rwanda Green Park	In-kind	Investment mobilized	800,000.00

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
Private Sector	Prime Economic Zones Ltd.	Equity	Recurrent expenditures	2,247,798.00
Private Sector	Prime Economic Zones Ltd.	In-kind	Investment mobilized	2,000,000.00
Private Sector	CIMERWA	In-kind	Recurrent expenditures	45,000.00
Private Sector	D?p?t Kalisimbi Ltd	Equity	Investment mobilized	1,700,000.00
Private Sector	D?p?t Kalisimbi Ltd	In-kind	Recurrent expenditures	100,000.00
Private Sector	Utexrwa Industry	In-kind	Recurrent expenditures	150,000.00
Private Sector	COPED	Equity	Recurrent expenditures	1,800,000.00
Private Sector	COPED	In-kind	Recurrent expenditures	600,000.00
Private Sector	AGRUNI Ltd	Equity	Recurrent expenditures	2,000,000.00
Private Sector	AGRUNI Ltd	In-kind	Recurrent expenditures	850,000.00
Private Sector	AgroPlast	Equity	Recurrent expenditures	1,527,621.00
Private Sector	AgroPlast	In-kind	Recurrent expenditures	1,100,000.00
Private Sector	Iyange Industries Ltd	Equity	Investment mobilized	978,000.00
Private Sector	Iyange Industries Ltd	In-kind	Recurrent expenditures	90,000.00

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
Private Sector	Association pour le Développement de Nyabimata (ADENYA)	In-kind	Recurrent expenditures	200,000.00
Total Co-Financing(\$)				34,133,931.00

Describe how any "Investment Mobilized" was identified

UNDP TRAC: The UNDP Country Office in Rwanda will provide in cash co-financing of 500,000 USD to the project, using UNDP Core TRACK resources allocated to the Country Office. The co-financing is considered investment mobilized as it excludes recurrent expenditures. CPCIC/NIRDA: This co-financing contribution is from CPCIC/NIRDA's resource efficient and cleaner production programme in the amount of 450,000 USD and consists of i) provision of training materials; and ii) provision of training and advice to SMEs including the identification of industrial symbiotic exchanges. The co-financing is considered investment mobilized as it excludes recurrent expenditures. Enviroserve Rwanda Green Park: This co-financing contribution of 800,000 USD to the project is applied as capital investment for the construction of the Enviroserve's e-waste dismantling and recycling facility. The co-financing is considered investment mobilized as it excludes recurrent expenditures. Prime Economic Zones Ltd: This co-financing contribution of 2,000,000 USD to the project is applied as capital investment for the construction of a wastewater network, ponds collecting recycled water, and drainage channels along roads. The co-financing is considered investment mobilized as it excludes recurrent expenditures. De'po't Kalisimbi Ltd: This co-financing contribution of 1700,000 USD to the project is applied as capital investment for the purchase of (i) an incinerator and related facilities and (ii) equipment for plastic recycling. The co-financing is considered investment mobilized as it excludes recurrent expenditures. Iyange Industries Ltd: Iyange Industries Ltd will provide co-financing of 978,000 USD in the form of investment in infrastructure and equipment for wastewater plants. The co-financing is considered investment mobilized as it excludes recurrent expenditures.

D. Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)
UNDP	GET	Rwanda	Chemicals and Waste	Mercury	1,260,000	119,700
UNDP	GET	Rwanda	Chemicals and Waste	POPs	5,040,000	478,800
Total Grant Resources(\$)					6,300,000.00	598,500.00

E. Non Grant Instrument

NON-GRANT INSTRUMENT at CEO Endorsement

Includes Non grant instruments? **No**

Includes reflow to GEF? **No**

F. Project Preparation Grant (PPG)
PPG Required **false**

PPG Amount (\$)
160,000

PPG Agency Fee (\$)
15,200

Agenc y	Trust Fund	Country	Focal Area	Programmin g of Funds	Amount(\$)	Fee(\$)
UNDP	GET	Rwanda	Chemical s and Waste	POPs	128,000	12,160
UNDP	GET	Rwanda	Chemical s and Waste	Mercury	32,000	3,040
Total Project Costs(\$)					160,000.00	15,200.00

Core Indicators

Indicator 9 Reduction, disposal/destruction, phase out, elimination and avoidance of chemicals of global concern and their waste in the environment and in processes, materials and products (metric tons of toxic chemicals reduced)

Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)
164.00	205.00	0.00	0.00

Indicator 9.1 Solid and liquid Persistent Organic Pollutants (POPs) removed or disposed (POPs type)

POPs type	Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)
Select Highly Hazardous Pesticides		44.00		<input type="checkbox"/>
Select Polychlorinat ed biphenyls (PCB)	125.00	122.00		<input type="checkbox"/>
Select Tetrabromodi phenyl ether and pentabromodiphenyl ether	35.00	35.00		<input type="checkbox"/>
Select Lindane	3.00	3.00		<input type="checkbox"/>

Indicator 9.2 Quantity of mercury reduced (metric tons)

Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)
1.00	1.00		

Indicator 9.3 Hydrochlorofluorocarbons (HCFC) Reduced/Phased out (metric tons)

Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)

Indicator 9.4 Number of countries with legislation and policy implemented to control chemicals and waste (Use this sub-indicator in addition to one of the sub-indicators 9.1, 9.2 and 9.3 if applicable)

Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)

Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
1	1		

Indicator 9.5 Number of low-chemical/non-chemical systems implemented, particularly in food production, manufacturing and cities (Use this sub-indicator in addition to one of the sub-indicators 9.1, 9.2 and 9.3 if applicable)

Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
5	5		

Indicator 9.6 Quantity of POPs/Mercury containing materials and products directly avoided

Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)
35,040.00	35,040.00		

Indicator 10 Reduction, avoidance of emissions of POP to air from point and non-point sources (grams of toxic equivalent gTEQ)

Grams of toxic equivalent gTEQ (Expected at PIF)	Grams of toxic equivalent gTEQ (Expected at CEO Endorsement)	Grams of toxic equivalent gTEQ (Achieved at MTR)	Grams of toxic equivalent gTEQ (Achieved at TE)
24.50	24.50		

Indicator 10.1 Number of countries with legislation and policy implemented to control emissions of POPs to air (Use this sub-indicator in addition to Core Indicator 10 if applicable)

Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
1	1		

Indicator 10.2 Number of emission control technologies/practices implemented (Use this sub-indicator in addition to Core Indicator 10 if applicable)

Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
2	2		

Indicator 11 Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female	150,000	150,000		
Male	150,000	150,000		
Total	300000	300000	0	0

Provide additional explanation on targets, other methodologies used, and other focal area specifics (i.e., Aichi targets in BD) including justification where core indicator targets are not provided

Indicator 9.6 includes 35,000 tonnes (WEEE) and 40 tonnes (mercury-containing waste) for the entire weight of the materials/products. It also includes 250MT for PCB-contaminated soil and 80MT for pesticides-contaminated soil.

Part II. Project Justification

1a. Project Description

The table below outlines the changes in the project design from the original PIF to the CEO Endorsement.

Component/Activity/ Section	Original PIF	Adjusted in CEO Endorsement	Justification
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<p>Component 3, Activity 4.2.1: Remediate one PCB-contaminated site</p>	<p>The REG transformer maintenance site (Gikondo Industrial Park) is suspected to be a PCB-contaminated site. It is proposed that after the relocation of the REG maintenance shop to an economic zone, soil is tested for PCB contamination and a remediation plan for the site is designed and implemented using local private sector entities involved in hazardous waste management, with the potential of testing and applying innovative bioremediation measures which could avoid costly export for treatment.</p>	<p>The estimated amount of PCB-contaminated soil to be excavated, appropriately managed, and disposed is 250 MT from the contaminated site. This activity has been designed to contract an international company (that operates in accordance with Stockholm and Basel Convention requirements) to carry out the management aspects (excavation, packaging, transportation) in Rwanda and related disposal abroad in a certified waste management facility.</p> <p>This will be coordinated with the provision of guidance and training for (i) REG, private sector operators, and others on all steps, from contaminated site analysis to remediation including excavation, collection, handling, repacking, transportation, cleaning of residual contamination, treatment, and storage, and (ii) government institutions to support the export procedures of</p>	<p>The remediation of the contaminated site is expected to require the disposal of 250 MT of soil.</p> <p>Domestic disposal capacity for PCB-contaminated soil currently does not exist.</p>
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Budget distribution	<p>Component 1:</p> <ul style="list-style-type: none"> - GEF Project Financing: 500,000 - Co-financing: 2,000,000 <p>Component 2:</p> <ul style="list-style-type: none"> - GEF Project Financing: 2,000,000 - Co-financing: 11,000,000 <p>Component 3:</p> <ul style="list-style-type: none"> - GEF Project Financing: 3,000,000 - Co-financing: 14,500,000 <p>Component 4:</p> <ul style="list-style-type: none"> - GEF Project Financing: 500,000 - Co-financing: 2,044,580 <p>PMU:</p> <ul style="list-style-type: none"> - GEF Project Financing: 300,000 - Co-financing: 1,200,000 	<p>Component 1:</p> <ul style="list-style-type: none"> - GEF Project Financing: 515,200 - Co-financing: 2,065,667 <p>Component 2:</p> <ul style="list-style-type: none"> - GEF Project Financing: 1,434,100 - Co-financing: 13,380,255 <p>Component 3:</p> <ul style="list-style-type: none"> - GEF Project Financing: 3,606,825 - Co-financing: 14,950,255 <p>Component 4:</p> <ul style="list-style-type: none"> - GEF Project Financing: 443,875 - Co-financing: 2,287,395 <p>PMU:</p> <ul style="list-style-type: none"> - GEF Project Financing: 300,000 - Co-financing: 1,450,000 	<p>The distribution of funds across the components changed mainly due to higher costs than planned during the PIF development for Activities 4.2.1 (Remediate one PCB-contaminated site) and 4.3.1 (Safely handle and dispose of stockpiled obsolete POPs and non-POPs pesticides).</p>
Project Core Indicators	<p>Core Indicator 9</p> <p>164 MT</p> <p>Core Indicator 9.1</p> <p>PCB = 125 MT</p> <p>PBDE = 35 MT</p> <p>Lindane & Endosulfan = 3 MT</p> <p>Mercury = 1 MT</p>	<p>Core Indicator 9</p> <p>161 MT</p> <p>Core Indicator 9.1</p> <p>PCB = 122 MT</p> <p>PBDE = 35 MT</p> <p>Lindane & Endosulfan = 3 MT</p> <p>Mercury = 1 MT</p>	<p>Based on the latest national PCB inventory, the figure was changed from 125 MT to 122 MT for PCB.</p>

Elaborate on: 1) the global environmental and/or adaptation problems, root causes and barriers that need to be addressed (systems description); 2) the baseline scenario and any associated baseline projects; 3) the proposed alternative scenario with a brief description of expected outcomes and

components of the project; 4) alignment with GEF focal area and/or Impact Program strategies; 5) incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing; 6) global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF); and 7) innovativeness, sustainability and potential for scaling up. ?

1) The global environmental and/or adaptation problems, root causes and barriers that need to be addressed (systems description)

I

Rwanda is a landlocked country situated in central Africa, also known as *the land of a thousand hills*?. Rwanda's Volcanoes National Park in the Virunga volcanic mountains with its high altitude forests is world famous for mountain gorillas and golden monkeys. In the southwest is Nyungwe National Park, with ancient mountain rainforests providing a habitat for chimpanzees and other primates.

Rwanda is part of two water catchments, the River Nile and the Congo Basin. The River Nile catchment area (through the Akagera River, which is the most important tributary of Lake Victoria from which flows the River Nile) is shared with the country's neighbours Burundi, Tanzania, and Uganda, while Rwanda shares the Congo Basin catchment area (through the Rusizi River and Lake Kivu) with the Democratic Republic of Congo. Rwanda is an important source of water for its own inhabitants and those of the countries benefitting from the Nile and the Congo Basin.

Rwanda has one of the highest population densities in Africa (538/km²) with a young, mostly rural population. In February 2021, the population was estimated at 13.1 million, a 30% increase from 2010's estimate.^[1]

For 27 years (since the war and the 1994 genocide, which destroyed major parts of the country's human and economic capital) Rwanda has been developing very quickly. As such, like many other countries around the world, Rwanda is faced with the growing challenge of managing municipal, hazardous, and toxic wastes as well as minimizing the environmental consequences of rapid industrialization impacting land, air, and water quality and threatening the health of humans, water bodies, and ecosystems.

The country has made great strides through a number of well-known waste related interventions. For example, Rwanda is renowned for its excellent policy on the banning of plastic bags. The plastic ban policy entered in force in 2008, and it has had a tremendously beneficial impact on the nature of the country, and inspired other countries worldwide (in particular developing countries) to replicate similar measures. Moreover, the collection of waste in large municipalities, like Kigali, is quite effective and is ensured by a proper collaboration between private operators (e.g. Company for Protection of Environment and Development (COPED) and Depot Kalisimbi Ltd) and the government (e.g. Water and Sanitation Corporation (WASAC)). Another waste-related highlight is the partnership between Enviroserve Rwanda Green Park (Enviroserve), FONERWA (the Rwanda Green Fund), and the Government, which led to the construction of an e-waste recycling facility that started operations in 2018.

On the other hand, however, there remain significant shortcomings that expose the country to the severe impacts of improper waste management. While rapidly growing sectors like industry, agriculture, and healthcare are implementing some cleaner production measures (e.g. hospitals in Kigali are mandated to work with licensed hazardous waste management facilities), there are still numerous waste streams that require attention.

As a result these sectors lead to releases of persistent organic pollutants (POPs) and mercury (Hg) through air emissions, waste disposal, effluent discharge, and soil contamination such as unintentionally produced POPs (uPOPs) (e.g. from the unsafe incineration or open burning of waste containing chlorinated chemicals and point sources like cement kilns), POPs, and Hg (which may be contained in products such as old computer monitors, end-of-life vehicles, spent batteries, paints, obsolete chemicals, empty chemical containers, and Hg-added medical devices, etc.). Releases of such chemicals, in particular releases to water sources and air, have a global impact.

The main root causes and barriers that need to be addressed to overcome the challenges mentioned are the following:

? **A growing population and economy, which without applying the 4R approach (Reuse, Reduce, Recycle and Recovery) is leading to the generation of increased emissions, releases, and waste volumes of hazardous and toxic chemicals**, putting pressure on existing waste management facilities and disposal options, which are in short supply and do not conform with best practices/international standards.

? **A policy and regulatory environment that does not promote/incentivize or prescribe cleaner production, the assessment and introduction of POPs/Hg-free alternatives, or management/treatment for hazardous waste streams**, etc. in economic sectors such as industry, agriculture, and healthcare, resulting in POPs and Hg releases to the environment. E.g. the implementation of a Polluter Pays Principle might be one of the incentives for industry to minimize waste generation, emissions or effluent discharge (with support provided by the Cleaner Production and Climate Innovation Centre/National Industrial Research and Development Agency (CPCIC/NIRDA), while the country also needs to ensure that POPs and Hg regulations (to support phase-out) are put in place in order to meet obligations under related chemicals related Conventions, and regulations on how to reduce the generation of hazardous wastes and its management/treatment/disposal are developed and put in place.

? **Limited investment opportunities to launch new businesses in waste recovery, reuse, recycling or disposal/treatment**, as interest rates are very high^[2] and the country does not have in place an Extended Producer Responsibility (EPR) framework that could provide the necessary and sustainable financing for the treatment of certain priority waste products/streams which cannot be avoided. Opportunities need to be created for the private sector to be able to make investments, benefit from seed funding (e.g. FONERWA), sustain business operations, and create jobs in the recovery, reuse, recycling, or disposal/treatment of (hazardous) waste.

? **Lack of data to inform needed investment and decision-making** because waste data is not regularly collected, monitored or managed (except for a few limited baseline studies) and an **increase in the complexity of hazardous waste streams** because of urbanization and industrialization which directly affects the complexity of its management. There is a need for a detailed Hazardous Waste Inventory to obtain a better understanding for which waste streams recovery, recycling or reuse would be viable, potential for valorisation of priority waste streams needs to be assessed and initiated through engagement of research institutes/universities and private sector partners, and capacity on waste separation at source needs to be built to facilitate its management.

? **Too few adequate, compliant landfills, hazardous waste treatment facilities, or interim storage facilities**, which hinders the safe storage, disposal/treatment of all waste streams and results in POPs and Hg releases to the environment. The capacity of existing hazardous waste treatment/disposal facilities requires expansion (in terms of volume and type of waste streams that can be treated) and environmental performance of existing facilities require improvements to minimize releases. Furthermore, there are a few waste streams (e.g. pure PCB-containing transformers, and obsolete POPs and non-POPs pesticides) that the country does not have (or will have) the capacity to treat and which need to be exported. Systems need to be put in place to allow the country to do so.

2) The baseline scenario and any associated baseline projects

National Implementation Plans, MIA and waste/chemicals inventories

In 2006 (GEF-3), the Government of the Republic of Rwanda and the Rwanda Environment Management Authority (REMA), with UNIDO support, completed the first National Implementation Plan (NIP) of the Stockholm Convention on Persistent Organic Pollutants (POPs). With UNEP support (GEF-4), Rwanda received further assistance for Capacity Strengthening and Technical Assistance for the Implementation of Stockholm Convention National Implementation Plans (NIPs), while in 2016 (GEF-5), the NIP was updated with UNIDO support.

In July 2014, REMA completed the *Short and Medium Term Hazardous, Toxic and Radioactive Waste Control Strategy and Plan in Rwanda* and in August 2014 its *National Implementation Plan for the Basel Convention on the Control of Transboundary movements of Hazardous wastes and their disposal (2014 - 2021)*. In July 2015, Rwanda completed an *Environmental Assessment and Audit of Paint Manufacturing Industries in Rwanda*. Finally, in August 2018, REMA undertook with UNEP/UNITAR support a *National Survey of Mercury and Mercury Compounds used in mining with particular attention on ASGM and in other sectors of development* (Health, ICT, Industry, Water, Construction, etc.). In April 2019, the GEF approved the following enabling activities, which are now underway: *Minamata Convention: Initial assessment for Rwanda* and *National action plan on mercury in the artisanal and small-scale gold mining sector in Rwanda*. As such the baseline situation with respect to chemicals and waste has been fairly well established (although exact and detailed data/information is not always provided/available and assessments often *skim the surface*).

The Government of Rwanda indicated that follow-up inventory activities would preferably focus on uploading and managing collected information in a web-based hazardous waste database and further advancing the web-based database system with the design and launch of a monitoring tool that would be used by: (i) Private sector to report on waste generation and releases; (ii) Enforcement entities to better monitor industry activities; and (iii) Government entities to have access to a detailed hazardous waste inventory in order to obtain insights in the types, volumes and locations of hazardous waste generation, which in turn can inform interventions in the area of chemicals and waste management.

Unfortunately, interventions to achieve the reduced use, consumption or release of chemicals of concern, in particular those covered under the Stockholm and Minamata Conventions, have not been

undertaken (with the exception of the 886,700 US\$ GEF-4 PCB project). As such many priorities remain to be tackled to achieve Global and National Environmental Benefits.

POPs and Hg management

PCBs

In terms of NIP priorities the only POPs project that has been funded and implemented to date, was the 886,700 US\$ GEF/UNDP (GEF-4) project entitled *Management of PCBs stockpiles and equipment containing PCBs*. Even though the project was limited in scope (mostly because of limited funding allocations) the project established the technical and legal capacity for the environmentally safe disposal of PCBs. Under the project, a test burn of oil contaminated by low levels of PCBs (with concentrations ranging from 50 ppm up to 1000 ppm) was successfully undertaken at the newly constructed CIMERWA cement kiln, entailing stack PCDD/F measurements before and during the burning of contaminated oil. When the PCB project came to an end, 55.2 tonnes of PCB liquid waste (at a cost of ca. 900 US\$/ton) had been incinerated by CIMERWA.^[3] The PCB waste oil incineration significantly enhanced the capacity of CIMERWA for the safe handling of PCBs and created an important partnership between CIMERWA and the Government for the future management/disposal of low concentration contaminated transformer oils. Due to a shortage of funds, the project was not able to fully implement the establishment of a Hazardous Waste Manifest system for the transport of PCB contaminated waste. For example, all identified equipment containing pure PCBs as well as highly contaminated equipment (3 PCB-containing Askarel transformers^[4] with a combined estimated weight of 975 kilograms and 4 highly contaminated in-service transformers with a combined weight of about 1.3 tonnes), were not able to be shipped abroad for safe incineration as planned. This equipment is still in use or stored by the PCB holders. 15 MT of PCB-contaminated oil is also stockpiled at CIMERWA. In total, the remaining PCBs and PCB-contaminated waste is estimated to be 122 tonnes.

The project also succeeded in building an interim storage facility for PCB-containing waste. Currently drained and rinsed transformers (of which the oil has been incinerated at CIMERWA) are stored at this facility, and are awaiting a final PCB contamination test to determine whether they can return to service or need to be rinsed once more. The facility (for now remaining under the management of REMA) has additional capacity that could potentially be used for the interim storage of other hazardous wastes (e.g. obsolete pesticides).

With support provided by the PCB project, national technical capacity for the environmentally sound management of PCBs was strengthened and enhanced through elaboration and adoption of four technical guidelines on various aspects of the PCB waste management cycle.: (i) Guidelines for PCBs inventory; (ii) Guidelines for inspection, monitoring and assessment of PCBs in Rwanda; (iii) Guidelines for mitigation of cross contamination of PCBs oil during the power transformer reparation; (iv) Guidelines for recycling, decontamination and rehabilitation of PCB contaminating equipment, oil and sites. However, the legislative process for the new PCB Law was put on hold because the country was simultaneously revising the framework Organic Law on Environment. The Organic Law on

Environment, which was enacted in 2018, has been serving as a temporary legislative base for PCB management, and the PCB guidelines are being applied on a voluntary basis.

The momentum and political and private sector will be there to continue and complete the PCB phase-out in Rwanda by building on what has been achieved so far and continuing the strengthening of the institutions in the management of PCB waste. By finalizing PCB related interventions, Rwanda will be able to tie up loose ends with respect to PCB management and be in an excellent position to meet the 2028 Stockholm deadline.

POPs Pesticides & Highly Hazardous Pesticides (HHP)

Rwanda has a total of 3 MT of POPs pesticides and 44 MT of non-POPs pesticides stockpiled.^[5] Specifically: 3 MT of obsolete POPs pesticides (Lindane 25% and Endosulfan 3% dust); 0.067 MT of confiscated stockpiles of prohibited pesticides; 0.9 MT of solid and 668 liters (~0.7 MT) of liquid obsolete pesticides; 12.5 MT of obsolete fertilizers; 28.823 MT of obsolete pesticides (including some POPs pesticides) that have been temporarily buried at the former Kicukiro Nyanza dumping site; and 14 MT of obsolete pesticides (Pirimiphos) and fungicides (Mancozeb) that have been temporarily buried at the Nyamagabe dump site and some waste is stored in drums above ground. Pesticide-contaminated soil also exists at the two dump sites.

In addition to the stockpiles, another future challenge is to avoid the heavy reliance on the use of pesticides/fertilizers in the agricultural sector, some of which are Highly Hazardous Pesticides (HHPs). There is a need to address through legal strengthening and capacity building for the introduction of safer alternatives in its agricultural sector (e.g. tea plantations, cash crops) while putting in place the necessary bans and control to limit the import and use of 'new' POPs pesticides and HHPs (in line with FAO's guidance on HHPs, in particular).

New POPs (E-waste)

In 2015, Rwanda completed its National e-Waste Management Policy and started the implementation of a 1.5 million USD FONERWA (Rwanda's Government supported Green Fund)/Ministry of Trade supported project focusing on the design and implementation of a national e-waste management strategy, including a national framework for e-waste recycling, an incentive-based country-wide collection scheme and the establishment of a dismantling facility.

In partnership with Enviroserve which operates the facility, an electronic and electrical (e-waste) management and dismantling facility was established in the Bugesera district (Eastern province) which is located 35 kilometres out of Kigali city in a newly established industrial zone, next to the border crossing with Burundi. The facility started operating in 2017 and is the second of its kind in Africa. Although there are several e-waste treatment facilities of different scope and size, Africa's only other similar facility is found in South Africa.

Even though Rwanda has banned the import of used computers, Rwanda has the potential of generating between 10,000 and 15,000 tonnes of e-waste per year, which could reach 20,000 tonnes by 2020 (Enviroserve analysis, 2015). The current facility is able to process 7,000 tonnes of e-waste annually,

however the actual processed amount is 2,500 tonnes/year, being caused by bottlenecks such as low awareness, no existing collection points and the absence of a national EPR framework.

When e-waste is delivered, it is sorted, tested, then dismantled. Computers with minor defects are repaired and donated to schools or sold to individuals. The e-waste facility does not ask for treatment/disposal costs, instead it recovers its expenses through the recovery and sale of (precious) metals extracted from e-waste. The facility dismantles 15 different types of e-wastes and recovers aluminum, copper and steel, which are sold on to recyclers and smelters. Mother boards are shipped to the Dubai-based Enviroserve e-waste recycling facility to extract precious metals.

Plastic electronics casings are removed and POPs flame retardant-containing ones are separated from POPs-free casings, shredded and stored. Rechargeable batteries are removed and stored for now, as well as Hg-containing compact fluorescent lamp (CFLs) and switches. Enviroserve also provides a service for Hg-containing waste healthcare waste and has a small quantity stockpiled. The facility also removes the toxic components from CRT monitors, but the toxic remnants are currently stored in the filters of the suction equipment. The facility is looking into solutions for the safe environmental disposal/treatment of these complicated waste streams in which the project will play a key role.

Regarding Hg-containing products, Hg-containing CFLs are collected by Enviroserve and treated with a lamp crusher, but the Hg has not yet been recovered. Enviroserve currently has 2 MT of stockpiled Hg-containing CFLs and Rwanda Energy Group (REG) has more than 5 MT stockpiled awaiting collection by Enviroserve pending a viable solution. Enviroserve also has 0.4 MT of Hg switches stockpiled, as well as Hg-containing button batteries, Hg-containing LCD screens and old televisions, and other Hg-containing e-waste. Forty (40) MT of PBDE- and BFR-containing plastic (80% are from electrical and electronic equipment and 20% from other equipment) has also been crushed and is stockpiled at Enviroserve awaiting appropriate treatment solutions. Some electronic workshops are also stockpiling such waste. In other cases, PBDE-containing plastic is landfilled as part of municipal waste management.

In terms of expansion, Enviroserve is looking into the treatment of Hg CFLs as well as Acid-Lead batteries. Furthermore, it is working on increasing the collection of used electronics through three types of partnerships: (i) business-to-business (companies/institutions which would like to dispose of their used electronics in a responsible manner); (ii) drop-off collection points (e-waste, also batteries and CFLs), of which 11 have been established, with the aim of having 30 collection points established by December 2021 (one in each of the 30 districts of Rwanda); and (iii) through a partnership with COPED ? a municipal and healthcare waste collection company (COPED separates e-waste from collected municipal waste). The facility is also looking into the treatment of e-waste from the neighbouring countries in the subregion.

Remaining challenges that the e-waste dismantling/recycling facility would like to address include: (i) Increasing the collection rates of e-wastes, as too much e-waste remains with end-users or end up being mixed with regular waste; and (ii) the economically viable treatment of more complex hazardous waste streams (such as cables, batteries, H-containing CFLs, toxic dust from CRT monitors, and POPs-containing plastics).

uPOPs and Hg (Healthcare Waste Management)

Rwanda has in place a *National Policy on Injection Safety, Prevention of Transmission of Nosocomial Infections and Healthcare Waste Management (MINISANTE, May 2009)*, as well as *National Guidelines on Health-Care Waste Management (2016)*.

In terms of the treatment of healthcare waste, the country has used its approximately 35 incinerators, which were procured with Global Fund and WHO support (ATI Mollier (France) and Inciner8, both have double chambers and can process approximately 50 kg/hr, none of these incinerators are provided with even an elementary Air Pollution Control System (ACPS), and few of them are equipped with a secondary burning chamber). However, Depot Kalisimbi Ltd bought, in December 2019, the industrial incinerator located in Mageragere sector from the Government of Rwanda. The industrial incinerator, since June 2020, has been used by most public healthcare facilities in Kigali to treat their medical waste and expired pharmaceutical products as well chemicals from different sectors. The incinerator has a capacity of burning 250 Kg of wastes/hour and will also support the Gastata old medical incinerator from GEM Forgings Private Limited India model 150 kg/hr in incinerating mainly wastes from healthcare facilities in Kigali city. The management of both companies (DPMMK and Depot Kalisimbi Ltd) are in negotiations with a European company to acquire additional new technology allowing infectious medical waste to be shredded and decontaminated in a high-security environment using microwaves. Kalisimbi has devices to measure emissions from the chimney of the incinerators. Only two hospitals in Kigali (Military Hospital and CHUK) still use their own incinerators.

DPMM Kalisimbi/Depot Kalisimbi Ltd Kalisimbi has exclusive agreement with the government to deal with Kigali public sector healthcare facilities (however, private sector hospitals are mandated to work with a licensed facility, of which Kalisimbi is the only option for now). It also treats expired pharmaceuticals (after inspection and approval from REMA, the Rwanda Food and Drug Authority, and the Rwanda Revenue Authority (RRA)). DPMM Kalisimbi/Depot Kalisimbi Ltd supports healthcare facilities with the collection of Hg-containing products

By law, hospitals, healthcare facilities and pharmacies require a contract with a Rwanda Utilities Regulatory Authority (RURA)-licensed waste treatment company, without which they won't obtain a permit for operation. During inspections, such contracts and the use of these contracts (invoices) are verified. This regulatory requirement provides a great incentive for waste generators to dispose of their wastes properly and enter into contracts with waste collectors/treatment companies. At the same time this creates financial incentives for private entities to operate in this sector.

Although decentralized HCW treatment is practiced to some extent in Rwanda, and BAT-conforming treatment technologies are present, there are a number of challenges that need to be overcome to further reduce waste generation and environmental releases. First and foremost, HCFs need to be supported to introduce better waste separation at source as well as replace PVC and Hg-containing products with PVC/Hg-free alternatives. Such measures will significantly reduce the amount of infectious waste that will need to be treated and will directly reduce uPOPs and Hg releases. Furthermore, a maintenance and repair plan for installed (decentralized) capacity needs to be urgently put in place to ensure that equipment remains functioning and operates according to environmental standards, to avoid that infectious waste instead is burned in the open or ends up on the dumpsite. Finally, expansion of private sector involvement in the collection, management and treatment of HCW, in particular nationally, would ensure sustainability, as equipment used is more environmentally friendly and operates according to set standards.

uPOPs (Municipal Waste Management)

Rwanda is renowned for its extremely successful policy on the banning of plastic bags which came into force in 2008. Law no. 57/2008 of 10/09/2008 relating to the prohibition of manufacturing, importation, use and sale of polyethylene bags in Rwanda has had a tremendously beneficial impact on the nature of the country and has inspired other developing countries to do the same. Moreover, the collection of waste in the large municipalities, like Kigali, is effective and is ensured by a proper collaboration through Private Public Partnerships between 36 private operators/waste collectors and the government, municipalities and districts (sectors).

Also important is the country's nationwide community work day called *Umuganda* which can be translated as *coming together in common purpose to achieve an outcome*, a practice that has long existed in Rwandan culture but only recently became mandatory. On the last Saturday of every month, from 8:00 AM to 11:00 AM, businesses close and traffic halts as citizens across the country take to their neighborhoods, shovels and hoes in hand, and together try to make them a little bit better than they were the month before. Projects range from digging drainage ditches to street sweeping. All able-bodied citizens between the ages of 18 and 65 are expected to participate, and dodging the civic duty can result in a severe sanctions. While some projects focus more on infrastructural developments like building schools and housing for those in need, a significant percentage of Umuganda efforts center on environmental protection and public clean-up. As a result Kigali is often cited as the *'cleanest city in Africa'*. However, on the side of disposal, there are significant shortcomings that expose the country to the severe impact of improper waste management and disposal. Cities have experienced a large increase in population after 1994, both as the effect of the return of refugees from different areas and a manifestation of more employment and business opportunities. As a result, waste generation has been rapidly increasing. Mixed waste (including hazardous waste from industries) has been dumped (though minimized now) at the Nduba Landfill in the City of Kigali after the Nyanza Kicukiro dumping site was closed. The Nduba Landfill receives approximately 400 tonnes of mixed waste each day and uses bulldozers and compactors to spread out the waste and cover the waste with soil at certain intervals. As a result the dumpsite is not smoking and there are no fires. Nevertheless, the leachate from the dumpsite containing all sorts of pollutants continuously enters the environment. The landfill uses a special section where incinerator ash is dumped, but again, no environmental protection measures are in place.

However, DPMM Kalisimbi recently entered into a joint venture with COPED for managing the Nduba Landfill in collaboration with the Water and Sanitation Corporation (WASAC). This partnership is mainly giving all of the day-to-day managerial and technical aspects to DPMM Kalisimbi and COPED. WASAC is providing some financing to DPMM Kalisimbi to facilitate or finance some of the planned work to be undertaken, for example, waste sorting; the burying, soil covering, and leachate control and management (leachate is not treated); vector control; and compacting of existing dumped waste in that site. For the future plans, there is an ongoing feasibility study financed by Swedfund on Nduba Landfill and the development of a sanitary landfill. The issue of funding for implementing the outcomes of this study will be the next step after validation of this ongoing feasibility study. The target is to transform it to a sanitary landfill where all waste are well managed, with water treated and methane gas valorized. The construction and management will be under WASAC supervision. Previous discussions between the Government and World Bank have also taken place regarding the remediation of the old closed dumpsite (Nyanza Kicukiro) and the management of gas formation.

In terms of recycling, efforts need to be significantly increased. Waste pickers go through waste when it is disposed of at the landfill, and collect metal scrap, aluminum, cardboard and plastics which are sold onto recyclers. There are a number of recycling companies present in Rwanda^[6], however, because segregation at source is not practiced, the recovery rate of recyclables is very low, and because recyclables have been mixed with other wastes, they are dirty and need excessive cleaning before processing, which increases costs.

However, some recent development has been made, For example, PET bottles are currently sorted and stored at Nduba Landfill where they are compacted and baled (by DPMM Kalisimbi Ltd), but not recycled. DPMM Kalisimbi and Depot Kalsimbi Ltd has been in discussion with Inyange Industries, Bralirwa-Coca-Cola, and COPED to partner in the management of PET bottles. DPMM Kalisimbi, in collaboration with Depot Kalisimbi Ltd, has plans to start (in April 2021 on already secured land) the construction of a warehouse to house a plastic bottle recycling line and convert the PET bottles into flakes, green charcoal, and construction materials, such as pavers, bricks, and tiles. It plans to order the required equipment by June 2021 and start producing pavers from PET (see Annex 14 of ProDoc) by August 2021, followed by the production of other products.

There is insignificant formation of uPOPs releases from the landfill (as it is not smoking or on fire); therefore, the main outstanding challenge to be addressed by the project is avoiding the generation of hazardous waste in industry and other priority economic sectors, and reducing the co-mingling of its waste with municipal waste and ending up in Nduba Landfill or in the future a sanitary landfill. It is also critical to create investment opportunities for private sector enterprises in order to operate viable businesses in the recycling industry.

Hg Management

Rwanda accessed the Minamata Convention on Mercury by Presidential Order no. 130/01 of 24/02/2017 in February 2017 and completed in 2018 a UNITAR/UNEP supported *National survey of mercury and mercury compounds used in mining with particular attention on artisanal small scale gold mining, and in other sectors of development (health, ICT, Industry, Water, Construction, Etc)?*. The survey provides an overview of the situation with respect to mercury in Rwanda, however the survey does not provide any information on the amount of mercury used or released in Rwanda, as a Mercury inventory (level I or Level II) was not conducted.

The national survey identified the following national priorities: (i) To assess the national capacity to implement the Convention through policy analysis, institutional capacity strengthening and to conduct in-depth countrywide mercury and mercury compounds inventory; (ii) To improve the policy and regulatory framework governing the management of hazardous waste and mercury and mercury compounds specifically; (iii) To undertake awareness raising among priority groups and build capacity through training on mercury management; (iv) To improve waste management practices for mercury and wastes containing mercury compounds; (v) To phase down and to phase out the use of mercury and mercury-containing products; (vi) To improve monitoring and reporting capacity on mercury concentrations in all concerned environmental compartments (soil, water and air) as well as in foods; and, (vii) To control and reduce emissions of mercury and mercury compounds to the atmosphere from

waste incineration facilities; smelting and roasting processes used in the recycling of metals and cement production plants.

Currently, environmental protection policies, laws, and regulations exist (including E-waste Policy and Strategy, single use plastic bag ban, and draft, but not endorsed PCB Law), but do not adequately address Hg and other hazardous waste management. The Minamata Convention's controls on the reduction/phase-out of Hg and Hg-containing products listed in Part 1 of Annex A of the Minamata Convention have not been domesticated into national regulations.

Regarding Hg-containing products in healthcare, such as thermometers and sphygmomanometers, healthcare facilities generally segregate Hg-containing waste from other medical waste. Most healthcare facilities in Kigali currently provide their healthcare waste to a single service provider (Depot Kalisimbi Ltd). Enviroserve provides a service for Hg-containing waste healthcare waste and has a small quantity stockpiled. Regarding other Hg-containing products, Hg-containing compact fluorescent lamp (CFLs) are collected by Enviroserve and treated with a lamp crusher, but the Hg has not yet been recovered. Enviroserve currently has 2 MT of stockpiled Hg-containing CFLs and REG has more than 5 MT stockpiled awaiting collection by Enviroserve pending a viable solution. Enviroserve also has 0.4 MT of Hg switches stockpiled, as well as Hg-containing button batteries, Hg-containing LCD screens and old televisions, and other Hg-containing e-waste. DPMM Kalisimbi/Depot Kalisimbi Ltd support healthcare facilities and collects Hg-containing products. In April 2019, the GEF approved the following enabling activities, which are now underway: *Minamata Convention: Initial assessment for Rwanda and National action plan on mercury in the artisanal and small-scale gold mining sector in Rwanda*. These enabling activities, and this project, will enable Rwanda to: (i) conduct a quick Level I and Level II Mercury Inventory; (ii) start the immediate phase-out of mercury and mercury-containing products (the country did not apply for a deadline extension); (iii) improve the policy and regulatory framework to support the phase-out of mercury-containing products, as well as the management of mercury and mercury-containing wastes (as part of a hazardous waste management regulation); and (iv) control and reduce emissions of mercury and mercury compounds to the atmosphere from waste incineration facilities; smelting and roasting processes used in the recycling of metals and cement production plants.

Phase-out, Management, and Disposal of Hazardous Chemicals/Chemicals of Concern and Wastes

Although Rwanda has been successful in the implementation of certain activities that are related to the management of hazardous chemicals and wastes (plastic bag ban; establishment of Africa's second e-waste recycling facility; Rwanda's first PCB management project; nationwide community work day (Umuganda)) there are many challenges outstanding. These challenges are two-fold. Firstly, there is insufficient capacity to ensure that important economic sectors like industry and agriculture operate in a manner that is safe for human health and the environment. Secondly, the sound management of hazardous waste from sectors like industry, agriculture and education/research is supported by a strong foundation (including Enviroserve, DPMM Kalisimbi and Depot Kalsimbi Ltd, and COPED), but is not yet adequate. Visits undertaken by UNDP experts in the course of the preparation of the Rwanda Basel Convention Report found large amounts of waste pending disposal from the paint and dye industry, consisting of empty containers and drums, dried chemical sludge from septic tanks, untreated waste water contaminated by solvents and other uncharacterized chemicals. Metal waste, including empty drums and cans previously containing paints or other chemicals, were recycled by Steelrwa (currently

closed, at least temporarily, as of August 2019, due to breaches of some environmental regulations). As there is no a quality policy for metal waste, the scrap contaminated with paint, oil, or chemicals is thought to generate a large amount of uPOPs during the melting process. The Basel Convention report also indicated that there currently are no existing facilities for storing both solid and liquid expired chemical reagents from laboratories (though DPMM Kalisimbi and Depot Kalsimbi Ltd is currently in the process of strengthening its hazardous waste interim storage capacity). In practice, these wastes are either kept in the laboratories, thrown untreated in the environment, or mixed with municipal waste. Priorities that are cited by ministries, industry, and development partners to address these challenges (in addition to those listed in sections above), include the need for: (i) assessing and introducing safer alternatives to replace chemicals of concern (and products containing such chemicals) in priority economic sectors; (ii) reducing the generation of hazardous/toxic emissions, releases and wastes from priority economic sectors; (iii) improving the capacity of waste collection, management and treatment facilities to increase the amount and types of hazardous wastes that can be managed, reused, valorized or treated; and (iv) strengthening the regulatory framework pertaining to the reduction of hazardous waste generation and its handling and treatment.

In terms of associated baseline projects, there are a number of projects and initiatives that should be mentioned (some of which were mentioned above):

- ? Enviroserve's E-waste facility; D?p?t Pharmaceutique Kalisimbi's incinerators
- ? DPMM Kalisimbi/Depot Kalisimbi Ltd Kalisimbi's agreement with the Government for treating Kigali public sector healthcare facilities' waste
- ? WASAC/DPMM Kalisimbi and Depot Kalsimbi Ltd/COPED partnership for the management of Nduba Landfill
- ? CIMERWA's capacity to incinerate hazardous waste streams as demonstrated under the first PCB project
- ? REMA's interim PCB storage facility as well as DPMM Kalisimbi/Depot Kalisimbi Ltd Kalisimbi's interim PCB storage capacity (either or both of which could be expanded to include additional hazardous waste streams)
- ? The Government is actively moving industry to new industrial zones where centralized water treatment is provided. Industries are required to put in place their own specific water treatment to ensure that treated effluents can be received by the centralized water treatment system. This initiative has led to a number of industries moving to new industrial zones (priority industries are those located upstream of wetlands) and their original sites being demolished, remediated and turned into parks. Throughout the proposed project the move of industries will continue.
- ? The Cleaner Production and Climate Innovation Centre/National Industrial Research and Development Agency (CPCIC/NIRDA) is currently working with garages, tea plantations/factories, and beer companies, among others to introduce cleaner production practices. In garages, this entails the responsible management and disposal of paints and oils, while at tea plantations this entails the

introduction of alternatives to hazardous pesticides. The CPCIC/NIRDA initiative will be significantly expanded with the support of the proposed project.

? There are a number of initiatives underway in Rwanda regarding the sound management of chemicals and waste, including: (i) Zero Waste Strategy Project, supported by Partnership between Avfall Sverige and UNDP, which had the objective to advance waste management in Kigali aiming at zero waste and concerning climate, environmental and economic aspects; and; (ii) Green City Kigali, which aims to set new standards for sustainable urban development in Rwanda and serve as a catalyst for change in Kigali and beyond.

? Various studies have been undertaken: (i) in 2014, REMA undertook a ?National Implementation Plan for the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (2014-2021)?; (ii) in 2015, REMA concluded an ?*Environmental Assessment and Audit of Paint Manufacturing Industries in Rwanda*?; in 2018, REMA, with support of the University of Rwanda (Dr. Christian Sekomo) conducted a ?*Short and Medium Term Hazardous, Toxic and Radioactive Wastes Control Strategy and Plan in Rwanda*?, which included a preliminary hazardous waste inventory; and in 2020, the Ministry of Infrastructure prepared the Baseline Study on Waste Collection and Recycling Countrywide A study on the Ndubda Landfill, financed by Swedfund, is underway and expected to be completed in 2021.

Policies and regulatory framework pertaining to the management of chemicals and hazardous wastes

There are a number of improvements that the Government of Rwanda will need to make to the policy and regulatory framework pertaining to the management of chemicals and wastes in order to meet its obligations under the Stockholm and Minamata Conventions, to ensure the sound management of chemicals and their wastes in the future, and to create an enabling environment for investments in the management, disposal and treatment of various waste streams.

As mentioned earlier, four technical guidelines related to the waste management cycle of PCB waste management were developed, but unfortunately the PCB Law was not approved due to the revision and approval process of the framework Organic Law on Environment. The project will relaunch the approval process of the PCB law, now that the Organic Law has been approved, to ensure the sound management of PCBs in the future. Furthermore, the Government of Rwanda has not domesticated any of the new and old POPs (with the exception of old POPs pesticides) into its regulations. Similarly, no policy or regulations actions have been undertaken to tackle the management of mercury, and in particular the phase-out of mercury-containing products as stipulated in Annex 1 of the Minamata Convention. These are pressing issues that will be addressed as soon as possible under the project as they will play an important part in the creation of the enabling environment for, among else, the phase-out of Hg- and POPs-containing products. In terms of hazardous waste treatment, the 2016 National Sanitation Policy does not provide sufficient details on how to handle hazardous wastes, resulting in hazardous waste (other than HCW and wastewater) typically being disposed of along with regular household waste in the municipal dumpsites or stored under inadequate conditions. Furthermore, the absence of regulations/ guidelines on hazardous waste management prevents enforcement. There is also a need to develop guidelines on the accurate identification and characterization of toxic elements present in waste. Regulations on the management and treatment of (hazardous) waste will be elaborated

as currently it is very unclear to hazardous waste generators (except for HCW and waste water treatment) what actions they are required to undertake. Finally, additional incentives for generators of hazardous releases and wastes (through a Polluter Pays Principle) as well as financial incentives for industry to get involved in the management of various waste streams (through the establishment of an Extended Producer Responsibility scheme for priority waste products) will be put in place to allow Rwanda to finance the collection, management, disposal, and treatment of priority wastes.

3) The proposed alternative scenario with a brief description of expected outcomes and components of the project

Figure 1: Theory of Change



The objective of the project is to support the Government of Rwanda and its private and public sector in decoupling hazardous waste generation and harmful releases from economic growth by enhancing the introduction of the 4R approach (Reuse, Reduce, Recycle and Recovery) in priority industries and economic sectors, while at the same time enhancing private sector-led national waste treatment capacity to ensure the sound management of wastes, generate income, create jobs, and protect human health and the environment.

The project will provide global environmental benefits in terms of reduction and elimination of chemicals of global concern and their waste including 122 metric tons (MT) of PCBs and PCB-contaminated waste, 3 MT of POPs pesticides, 44 MT of non-POPs pesticides, 35,000 MT of PBDE-containing waste (equivalent to 35 MT of PBDEs), 250 MT of PCB-contaminated soil; and 1 MT of Hg (and 40 MT of Hg-contaminated waste); 24.5 gTEQ of emissions of POPs to air from point and non-point sources reduced and avoided; and direct benefits to at least 150,000 women and 150,000 men.

COMPONENT 1: Establishment of an enabling policy/regulatory framework to create (financial) incentives for the sound management of chemicals, the introduction of safer alternatives, minimization of hazardous waste generation and its environmentally safe treatment

Outcome 1: Creation/improvement of the regulatory framework, tools and (financial) incentives that allow private sector and government to improve the management of chemicals and hazardous wastes

Output 1.1: Approval of drafted PCB Law facilitated

Activity 1.1.1: Review, revise, and submit for approval the PCB Law

As part of the GEF-4 project *Management of PCBs stockpiles and equipment containing PCBs*, the *Law on PCBs Disposal and Management in Rwanda* was drafted and four technical guidelines on various aspects of the PCB waste management cycle were elaborated and adopted: (i) Guidelines for PCBs inventory; (ii) Guidelines for inspection, monitoring and assessment of PCBs in Rwanda; (iii) Guidelines for mitigation of cross contamination of PCBs oil during the power transformer reparation; (iv) Guidelines for recycling, decontamination and rehabilitation of PCB contaminating equipment, oil and sites. However, the legislative process for the new PCB Law was put on hold because the country was simultaneously revising the framework *Organic Law on Environment*. The *Organic Law on Environment*, which was enacted in 2018, has been serving as a temporary legislative base for PCB management, and the PCB guidelines are being applied on a voluntary basis.

This project activity will relaunch the approval process of the PCB Law to ensure the sound management of PCBs in the future and adherence to the PCB guidelines by PCB holders. It will support the review, revision, and approval process of the PCB Law.

A Strategic Environmental and Social Assessment (SESA) will be undertaken prior to the start of this activity.

Output 1.2: POPs/Hg legislative/regulatory framework strengthened to support the phase-out of Hg/POPs and products that contain them, and support the introduction of safer alternatives

Activity 1.2.1: Undertake a legislative/regulatory assessment and draft and submit for approval regulatory text on the control of new POPs and Hg and Hg-containing products, listed in Part 1 of Annex A of the Minamata Convention

Environmental protection policies, laws, and regulations exist (including E-waste Policy and Strategy, single use plastic bag ban, and draft, but not endorsed PCB Law), but do not adequately address POPs/Hg and other hazardous waste management. The Stockholm Convention's controls on new POPs (with the exception of POPs pesticides) and the Minamata Convention's controls on the reduction/phase-out of Hg and Hg-containing products listed in Part 1 of Annex A of the Minamata Convention have not been domesticated into national regulations.

This project activity will undertake a comprehensive legislative assessment to identify which legislative and regulatory gaps exist and how to address these gaps as early as possible. This will be followed by drafting the regulatory measures related to import, phase-out, management, disposal and/or treatment as well as environmental standards for POPs/Hg in various media, including the facilitation of the introduction of safer alternatives, and a ban on the import of (i) new POPs, (ii) Hg-containing products listed in Annex A of the Minamata Convention, and

(iii) other hazardous products and waste as appropriate. This activity will also take into account and address the possibility of importing waste (such as PBDE-containing plastic) and recyclable materials from neighbouring countries for environmentally sound treatment in Rwanda.

This will be followed by a technical review process of the proposed regulatory measures and facilitate, to the extent possible, the approval process for the regulatory measures.

Upstream activities, such as ban on the import of new POPs and Hg-containing products, that may have environmental or social implications will undergo a participatory SESA to ensure that economic impacts on small and medium-sized enterprises and their workers are taken into consideration in the decision-making process while developing the legislative tools. In addition, the Stakeholder Engagement Plan (Annex 7) will ensure participation of affected stakeholders during these activities.

Guidance and training will be provided to the project team and other relevant stakeholders on conducting a legislative assessment and relevant issues regarding Stockholm, Basel, and Minamata Conventions compliance.

Output 1.3: Regulations/guidelines on the handling/treatment of priority hazardous waste streams developed and disseminated

Activity 1.3.1: Undertake a regulatory and guidelines assessment and draft and submit for approval regulatory text/guidelines on the management and treatment of hazardous waste streams, in particular those which contain POPs/Hg

Elements of a national system for the ESM of chemicals and waste exists (including some aspects of e-waste recycling and PCB, healthcare, and other hazardous waste disposal), but overall capacity remains inadequate. The 2016 National Sanitation Policy does not provide sufficient details on how to handle hazardous wastes, resulting in hazardous waste (other than HCW and wastewater) typically being disposed of along with regular household waste in the municipal dumpsites or stored under inadequate conditions. Furthermore, the absence of regulations/ guidelines on hazardous waste management prevents enforcement. There is also a need to develop guidelines on the accurate identification and characterization of toxic elements present in waste (see Annex 17: Private Sector Strategy and Plan). National import permit regulations, e.g. regarding e-waste, are also required.

This project activity will undertake a review of the related regulatory framework (in coordination with Activity 1.2.1), internationally available guidelines, and national draft guidelines on the management and treatment of hazardous waste streams, in particular those which contain POPs/Hg. This will include an assessment and identification of the existing gaps and needs regarding required guidelines and needs for enforcement.

This will be followed by development of draft regulatory measures, a technical review process of the proposed regulatory measures and guidelines, including enforcement tools, and facilitate, to the extent possible, the approval process.

Guidance and training will be provided to the relevant stakeholders on undertaking/supporting regulatory, guidelines, and needs assessments and drafting regulatory text/guidelines on the management and treatment of hazardous waste streams, in particular those which contain POPs/Hg and in compliance with Stockholm, Basel, and Minamata Conventions obligations.

An SESA will be undertaken prior to the start of this activity.

Output 1.4: Industry incentives introduced to generate less (hazardous) waste

Activity 1.4.1: Develop and operationalise a Polluter-Pays-Principle system, best performer awards programme, and other incentives

Incentives to reduce the generation of (hazardous) wastes by waste generators, e.g. through the introduction of the Polluter Pays Principle, are not in place. This typically results in a lack of efforts to

reduce environmental releases and wastes and a corresponding mandate for environmental enforcement entities to monitor these aspects when inspections are carried out.

This project activity will design a Polluter-Pays-Principle system (and other measures as appropriate to transfer costs for remediation and pollution management to waste generators), building on related text in the Law N°48/2018 of 13/08/2018 On Environment. This will be followed by technical validation of the Polluter-Pays-Principle system, submission for approval, and operationalisation.

This project activity will also design a 'best performer awards' programme for industries/SMEs that achieve resource efficient and cleaner production, to provide market-based incentives for adoption of environmentally sound practices. This will build on similar initiatives in Rwanda, such as an award for companies that properly manage their chemical stockpiles without expirations over a three-year period. This will be followed by technical validation of the programme, submission for approval, and operationalisation.

This project activity will also conduct an assessment of existing and potentially feasible economic instruments in Rwanda and elsewhere to finance the long-term management, collection, recycling, and treatment/export of priority product/waste streams. This will include an assessment of the national regulatory framework, import tax levies and other measures such as tax breaks and green procurement, and legal revisions as required (in coordination with Activities 1.2.1 and 1.3.1). This will be followed by the design, technical validation, submission for approval, and operationalisation of economic instruments to provide incentives for polluters to reduce environmental releases and wastes as well as measures and tools to ensure enforcement.

Upstream activities, such as applying a Polluter-Pays-Principle system, that may have environmental or social implications will undergo a participatory SESA to ensure that economic impacts on small and medium-sized enterprises (SMEs) and their workers are taken into consideration in the decision-making process while developing the legislative tools. In addition, the Stakeholder Engagement Plan (Annex 7) will ensure participation of affected stakeholders during these activities.

Guidance and training will be provided to relevant stakeholders, including public and private sector waste generators and waste management enterprises, on developing and implementing a Polluter-Pays-Principle system, best performer awards programme, and other incentives in compliance with Stockholm, Basel, and Minamata Conventions obligations.

Output 1.5: Extended Producer Responsibility (EPR) framework developed and introduced to finance treatment of priority waste products/streams

Activity 1.5.1: Develop and operationalise an EPR framework

A lack of dedicated financing and financial incentives is inhibiting the treatment/disposal of priority waste streams/products (e.g. lead-acid batteries, PBDE-containing products, electronics) and not enticing entities to become involved in the management of more 'difficult' waste streams.

This project activity will involve the establishment of a working group with key government ministries and agencies (including REMA, Rwanda Revenue Authority, Customs Department, municipal governments, CPCIC/NIRDA, among others), private sector enterprises, and international experts to guide the process. This will involve a review of the findings of the hazardous waste inventory and database (Output 2.1) to identify target waste streams/products, such as those outlined above and in particular those that cannot be avoided. An assessment of EPR schemes implemented in other countries

including lessons learned from OECD countries and UNDP projects (including Georgia and China, among others) and a review of the recently published EPR regulations in South Africa and draft EPR regulations in Kenya, among others will be undertaken. By the time this activity starts, lessons learned from South Africa's implementation of the EPR regulations should also be available.

Various EPR approaches will be considered including take-back requirements; economic or market based instruments, such as advance disposal fees, deposit/refund schemes, and taxes; regulations and performance standards including technical standards and mandatory recycling rates; and information-based instruments that serve to raise awareness such as mandatory labelling requirements and information campaigns about producer responsibility and waste separation. The aim is to ensure the availability of long-term financial resources for the treatment of key waste streams.

This will be followed by technical validation of the EPR framework, submission for approval, and operationalisation.

EPR regulations will also be developed to establish a transparent and legal basis for EPR implementation compliance and enforcement. Adequately resourced monitoring systems will also be established and regular auditing of the EPR scheme will take place. The EPR scheme will start with a pilot of a limited set of products to gain experience in Rwanda. Design aspects will also be taken into account where applicable.

Producers or importers of identified products will be required to register with REMA and be subject to the EPR scheme. The establishment of collective EPR systems managed by accredited Producer Responsibility Organisations (PROs) will also be evaluated and considered. Coordination with the informal sector will also be ensured and formalization activities will be undertaken where applicable.

Guidance and training will be provided to the relevant stakeholders, including public and private sector waste generators and waste management enterprises, on developing and implementing an EPR framework, including compliance and enforcement aspects.

An SESA will be undertaken prior to the start of this activity.

The development of the EPR scheme will also be closely coordinated with this project's activities on waste valorisation to support an efficient, cost-effective, and financially sustainable implementation of the scheme.

Output 1.6: Capacity of the Customs administration strengthened to identify hazardous waste at entrance and act on it with adequate measures in cooperation with REMA

Activity 1.6.1: Develop and implement a Customs strengthening strategy

The Customs Services Department under Rwanda Revenue Authority (RRA) does not have sufficient awareness and capacity regarding the Stockholm and Minamata Conventions' waste streams and related requirements. It also lacks the tools for screening, evaluating risks and compliance with the current and to-be-strengthened regulations, and transmitting information to REMA for potential action.

This project activity will develop a comprehensive strategy to support Customs to prevent the import and use of banned or to-be-banned products (e.g. PCBs, PBDE), Hg-containing products listed in Part 1 of Annex A of the Minamata Convention, banned pesticides (POPs, HHP/PED), and other hazardous products and waste. This will address the identification of hazardous products and waste potentially entering the country, standard operating procedures (SOPs), and solutions, such as the

establishment/strengthening and use of interim storage of suspected items. This will be coordinated with REMA in order to take appropriate action in case of suspected irregularities.

This will be followed by technical validation of the strategy, submission for approval, and implementation. This will include the development of guidance materials and recurrent training programmes for customs officers. This will be undertaken in cooperation with the World Customs Organization, which has introductory on-line courses available for customs administration officers on chemicals and waste-related MEAs (such as the Green Customs Initiative's modules). This activity will also build on successful experience in Rwanda regarding Customs training related to implementation of the Montreal Protocol.

The development and implementation of the strategy will be informed by undertaking a training needs assessment (guided by the Social and Environmental Standards (SES)) and a post-training assessment to ensure that the information has been delivered to the participants as required and will have a meaningful impact on their job performance.

COMPONENT 2: Minimize hazardous waste generation through the introduction of safer alternatives and cleaner (production) processes in selected industries and priority sectors

Outcome 2: Data that contributes to a reduction in hazardous waste generation and releases from selected industries and other priority sectors achieved and safer alternatives is strengthened

Output 2.1: Web-based hazardous waste inventory and database (with a focus on chemicals and waste-related Conventions) and web/phone-based monitoring tool for private sector/enforcement entities established

Activity 2.1.1: Develop and implement a web-based hazardous waste inventory and database

While the baseline situation regarding chemicals and waste management in Rwanda is fairly well established (through the original and updated Stockholm NIP, Minamata Convention NAP, Basel Convention Inventory and NIP, National E-waste Management Strategy, and Baseline Study on Waste Collection and Recycling Countrywide, among other assessments), specific data on hazardous waste generation and releases (e.g. type, characterisation, volume, source/location) and management is generally limited.

This project activity will design a web-based hazardous waste inventory and database (accessible by computer and mobile phones/tablets) in partnership with the relevant private sector and enforcement agencies. It will build on REMA's current 'Waste Information Management System (WIMS)', which is hosted on REMA's website, but has not yet been widely implemented. WIMS has been designed to provide importers with details on what can be imported and regulators with details on what chemicals have been imported, including expiration dates. Import data is submitted by importers, but the WIMS is not yet connected to the Customs data system.

The system will enable collected information and data to be uploaded and managed in a centralised system and relevant private and public sector stakeholders will be required to report on waste generation, releases, and transfers for treatment (in coordination with the legal requirements established in Component 1). The system will also facilitate the enforcement entities to better monitor industry activities and provide government ministries with access to an up-to-date detailed hazardous waste inventory to inform policy, support, and future interventions to achieve reductions in hazardous waste generation and releases.

This will be followed by technical validation of the web-based hazardous waste inventory, submission for approval, and operationalisation including private sector reporting.

All relevant stakeholders, such as industry, higher learning institutions, and pharmacies, will be informed of their need to regularly provide data to the hazardous waste inventory and database. This will cover inputs, outputs (waste generation and releases), and expiration aspects, among others. Guidance and training will be provided for data entry and data generation, complemented by the provision of guidance regarding hazardous waste reduction and environmentally sound treatment.

This project activity will also undertake an assessment of the national laboratory capacity and develop a national laboratory capacity strengthening plan that includes resource mobilisation aspects. This will build on the 2014 *Assessment of National Laboratories Capacity to Analyze POPs Substances including PCBs Oil and Suggest their Upgrading Strategy* and ensure national capacity to undertake key analysis (ignitability, corrosivity, and reactivity) to determine whether a waste is hazardous.

Relevant government ministries will receive guidance and training on using the web-based hazardous waste database to identify the types, volumes, and locations of hazardous waste generation and releases (and to inform future interventions to achieve reductions in hazardous waste generation and releases) in coordination with the scheduling of regular checks and site visits. This will be coordinated with training on enforcement of regulations.

Outcome 3: Technical capacities of industries and major hazardous wastes generators strengthened to develop and implement innovative and environmental best practices

Output 3.1: *Selected industries and priority economic sectors (e.g. agriculture, textile, paint, healthcare) supported in avoiding/reducing the generation of (hazardous) waste and releases through the introduction of cleaner production practices and safer alternatives (e.g. to POPs/Hg/chemicals of concern)*

In line with the ESMF that has been prepared for the project, an Environmental and Social Impact Assessment (ESIA) will also be conducted for all pilot demonstrations and disposal activities (Activities for Outputs 3.1, 4.1, and 4.2) and will identify environmentally sensitive receptors that may be affected by accidental releases such that mitigation measures will be developed and included in the ESMP through a Spill Prevention and Management Plan. This plan will describe how the project will handle, transport, and store hazardous material in accordance with IFC Health and Safety Guidelines.

Prior to engaging any enterprise, in particular those participating in the demonstration and disposal activities a private sector risk assessment using the UNDP [tool](#) will be conducted. In addition, during selection of the enterprises to be engaged in the demonstration pilots and disposal activities, and as part of the private sector risk assessment, the project will ensure that an Occupational Safety and Health Plan is in place prior to commencement of the work.

Activity 3.1.1: *Design and undertake demonstration pilots to avoid/reduce the generation of (hazardous) waste and releases through the introduction of cleaner production practices and safer alternatives*

Phasing-out and disposing/treating POPs/Hg and other chemicals of concern is at an early stage in Rwanda, largely due to the lack of appropriate domestic hazardous waste disposal and treatment facilities. The introduction of safer alternatives and cleaner production processes and practices is also currently limited, though interventions have been increasing including through the support of the CPCIC/NIRDA to selected industries and priority economic sectors such as ICT, health, agro-processing, leather, and energy value chains. A number of industries/sectors have been identified as the main sources of releases and wastes which contain chemicals of concern and therefore prioritised for

the introduction of safer alternatives and cleaner production interventions, such as the tea industry, paint industry, textile industry, automotive industry, pharmacies, food and beverage industry, construction sector, beauty industry, cosmetic industry, solar product companies, telecommunication companies, and the healthcare sector (see Activity 3.1.2 below).

This project activity will include the following regarding support to avoid/reduce the generation of (hazardous) waste and releases including POPs, Hg, and other chemicals of concern: (i) Building on the data from the hazardous waste inventory and database, undertake an assessment of priority sectors regarding their practices and capacity, and prioritise for demonstration pilots, followed by technical validation and submission for approval; (ii) develop hazardous waste reduction and management plans for the key sectors (including introduction of safer alternatives and cleaner production practices to support the phase-out of Hg, POPs, HHP-containing products/chemicals and reducing uPOPs releases), followed by technical validation and submission for approval; and (iii) design and implement pilot interventions on cleaner production and safer alternatives in selected industries and priority economic sectors. This will also include the development and provision of guidance and training to the relevant stakeholders and develop the capacity of CPCIC/NIRDA to replicate successes across the entire sectors, among others.

The priority sectors and potential activities related to waste reduction, cleaner production, and safer alternatives that have been identified thus far include the: (i) tea industry, which generates plastic, rubber, and metal waste and wastewater; (ii) paint industry, which generates polymer dispersion effluents, wastewater, waste paint, paint sludge, and containers; (iii) textile industry, which generates cotton waste, garment waste, and wastewater;

(iv) automotive industry, which generates plastic, glass, metal, and oil waste and wastewater; (v) pharmacies, which generate expired pharmaceuticals and plastic; (vi) beverage and food industry, which generates organic, plastic, and glass waste and wastewater; (vii) construction sector, which generates damaged bricks and tiles, dust, and sludge or very fine sand residues; (viii) beauty industry, which generates synthetic hair, plastic, and aluminium waste, chemical waste from detergent, and wastewater with high grease oil content; and (iv) cosmetic industry, which generates plastic and carton waste and wastewater. Other possible sectors include solar products and telecommunications.

Potential private sector partners for the pilot interventions include, among others: Enviroserve, CIMERWA, D?p?t Kalisimbi Ltd, Inyange Industries, Utexrwa Industry, Prime Economic Zone, COPED, Braliwara/Coca-Cola, AGRUNI Ltd, and AgroPlast. All such stakeholders, among others, will be invited to participate in the assessments and development of hazardous waste reduction and management plans, and will have access to technical advice and support under the project.

This activity will be coordinated with Activity 5.1.1 regarding demonstration pilots to valorise priority waste streams and Activity 5.2.1 regarding demonstration pilots to enhance national hazardous waste treatment capacity and environmental performance.

Linkages will also be made, where applicable, with the establishment of a fecal sludge treatment plant by CoK in partnership with WASAC, and with initiatives for improving Nduba Landfill, following completion of the current landfill study being undertaken with the support of Swedfund. Safer alternatives for agricultural interventions, such as tea plantations, will be in line with FAO's guidance on HHPs.

Activity 3.1.2: Safely handle and dispose of Hg-containing products

A preliminary national survey to map out different institutions and priority areas suspected to have Hg and Hg compounds was conducted in 2018 and the MIA is currently underway. Regarding Hg-

containing products in healthcare, such as thermometers and sphygmomanometers, healthcare facilities generally segregate Hg-containing waste from other medical waste. Most healthcare facilities in Kigali currently provide their healthcare waste to a single service provider (Depot Kalisimbi Ltd). Enviroserve provides a service for Hg-containing waste healthcare waste and has a small quantity stockpiled.

Regarding the healthcare sector, this project activity will support the healthcare facilities in Rwanda to phase-out Hg-containing medical devices and introduce Hg-free devices. This will include the following:

(i) coordinate with MIA implementation regarding an assessment of Hg-containing healthcare products and waste; (ii) develop a national strategy for phasing-out Hg-added thermometers and sphygmomanometers in healthcare, followed by technical validation and submission for approval; (iii) implement the national strategy for phasing out Hg-added thermometers and sphygmomanometers in healthcare; and (iv) as part of implementation, provide guidance and training at the healthcare facilities on the collection, separation, handling, and disposal of Hg-containing wastes, the selection, use, and calibration of Hg-free alternative, and green procurement (using training methods developed and improved under the Global Biomedical Waste Project and the African Regional Biomedical Waste Project implemented by UNDP). The project will also support the procurement of the Hg -free medical devices (alternatives will be selected in consultation with the Ministry of Health and procurement departments of selected hospitals).

Regarding other Hg-containing products, Hg-containing compact fluorescent lamp (CFLs) are collected by Enviroserve and treated with a lamp crusher, but the Hg has not yet been recovered. Enviroserve currently has 2 MT of stockpiled Hg-containing CFLs and REG has more than 5 MT stockpiled awaiting collection by Enviroserve pending a viable solution. Enviroserve also has 0.4 MT of Hg switches stockpiled, as well as Hg-containing button batteries, Hg-containing LCD screens and old televisions, and other Hg-containing e-waste. DPMM Kalisimbi/Depot Kalisimbi Ltd support healthcare facilities and collects Hg-containing products.

The is project will support the following regarding these other Hg-containing products: (i) coordinate with MIA implementation regarding an assessment of Hg-containing products and waste; (ii) develop a national strategy for phasing-out priority waste streams including e-waste, batteries, and CFLs (in coordination with the healthcare sector products strategy), followed by technical validation and submission for approval; (iii) implement the national strategy; and (iv) as part of implementation, provide guidance and training to relevant stakeholders (including Enviroserve and electronic workshops) on procurement of alternatives, collection, handling, transport, and environmentally sound interim-storage of Hg-containing wastes.

Support will also be provided to Enviroserve to establish sustainable collection channels and procurement of appropriate equipment for storage and treatment/recycling of Hg-containing e-waste and to Depot Kalisimbi Ltd regarding the collection, storage, and treatment of Hg-containing products.

The project will also assess the different solutions for Hg-containing waste generated following disposal

(e.g. centralized interim storage (see Activity 5.3.1) and subsequent joint export with other hazardous waste envisaged under the project). This will be undertaken in coordination with Output 4.1, regarding possible export of PCB-containing equipment and oil, and Output 4.3, regarding possible export of POPs pesticides, and the provision of guidance and training for government institutions to support the export procedures.

An SESA and a site-specific ESIA will also be conducted in accordance with UNDP's SES policy and the UNDP SES Guidance Note on Assessment and Management prior to the start of this activity.

Activity 3.1.3: Safely handle and dispose of PBDE-containing plastics

Forty (40) MT of PBDE- and BFR-containing plastic (80% are from electrical and electronic equipment and 20% from other equipment) is crushed and stockpiled at Enviroserve (based on visual inspection and density separation for different plastics in its plastics washing line) awaiting appropriate

treatment solutions. Some electronic workshops are also stockpiling such waste. In other cases, PBDE-containing plastic is landfilled as part of municipal waste management.

This project activity will include the following: (i) undertake sampling and analysis of stockpiled PBDE-containing plastics as needed; develop a management plan for PBDE-containing plastics, including cost-effective options for its elimination, with a preference for a domestic service provider (i.e. CIMERWA or Depot Kalisimbi Ltd), followed by technical validation and submission for approval; (ii) safeguard stored stockpiles; (iii) explore and where applicable facilitate import of PBDE-containing plastic from neighbouring countries; (iv) undertake disposal of at least 35,000 MT of (stockpiled) PBDE-containing waste in Rwanda (including possible import from neighbouring countries; subject to confirmation of national capacity for environmentally sound disposal; see Activity 5.2.1); and (v) undertake continuous implementation of the management plan for PBDE-containing plastics including the introduction of safer alternative products. Domestic storage and disposal aspects will be assessed under Activity 5.3.1 (regarding improving capacity of existing hazardous waste interim storage facilities) and Activity 5.2.1 (as part of the facility-specific environmental performance assessments).

Support will also be provided to establish sustainable collection channels, including incentives to facilitate easy take-back schemes, and procurement of appropriate treatment/recycling equipment.

Guidance and training will be provided to relevant stakeholders, including public and private sector waste generators and waste management enterprises, on safely handling and disposing of PBDE-containing plastics. Guidance and training for government institutions to support export procedures, if relevant, will be provided in coordination with export requirements of other waste such as Hg, pesticides, and PCBs.

A site-specific ESIA will be conducted prior to the start of this activity.

COMPONENT 3: Improve private sector and institutional capacity for the sound environmental treatment and disposal of hazardous waste streams

Outcome 4: Increased capacity of the private sector and government entities to sustainably handle and treat: (i) existing stockpiles of hazardous and obsolete chemicals; and (ii) various hazardous waste streams which cannot be avoided

Output 4.1: Remaining PCB-containing equipment and oil phased out/disposed of

Activity 4.1.1: Safely handle and dispose of remaining PCB-containing equipment and oil

There are a small number of outstanding PCB-related disposal activities that the Government of Rwanda needs to complete as a follow up to the GEF-4 PCB project and to meet its commitments under the 2025/2028 Stockholm Convention deadlines. 55.2 MT of PCB oil was co-incinerated in 2018 at CIMERWA cement kiln. The remaining PCBs and PCB-contaminated waste is estimated to be 122 tonnes.

This project activity will include the following: (i) Review and update the comprehensive PCB inventory and database undertaking sampling and analysis of transformer oil as required; (ii) establish disposal plan and a long-term agreement with CIMERWA to enable incineration of PCB-contaminated oil (up to 1,000 ppm) or Depot Kalisimbi Ltd if appropriate, and if needed issue a tender for services for disposal abroad; (iii) phase-out and undertake safe pre-treatment of PCB-contaminated transformers and oil still in use (including testing of the drained and rinsed transformers currently stored at the interim PCB storage facility to ensure that they can be safely scrapped or returned to service after

refilling with new transformer oil, or alternatively, if PCB levels prove too high, to support another rinsing cycle); (iv) safeguard stored equipment and waste; (v) undertake disposal of PCBs and PCB-contaminated waste in Rwanda or exported as required (see Output 4.3 regarding export procedures). Domestic storage and disposal aspects will be assessed under Activity 5.3.1 (regarding improving capacity of existing hazardous waste interim storage facilities) and Activity 5.2.1 (as part of the facility-specific environmental performance assessments).

Guidance from the PCB project (with updates as required) and refresher training will be provided to the relevant stakeholders, such as REG, CIMERWA, and waste transporters (such as DPMM Kalisimbi/Depot Kalisimbi Ltd and COPED, which are the only operators licensed by RURA for hazardous waste transportation), on PCB management aspects, such as sampling and analysis, decommissioning, draining, handling, transport, storage, and disposal, tailored to the training recipient groups.

This activity will be coordinated with Output 4.1 (Obsolete POPs and non-POPs pesticides disposed of) and Output 3.1 (regarding Hg and PBDE treatment).

As part of the ESIA that will be prepared for the project, CO₂ emissions from the disposal of remaining PCB-containing oil will be estimated, options compared, and measures proposed to minimize CO₂ emissions such that the alternative technologies must ensure compliance with BAT/BEP as per the Stockholm and Basel Conventions. This will build on the burning test of PCB contaminated oil undertaken at CIMERWA in 2017 as part of the GEF-4 PCB project. A site-specific ESIA will be also conducted prior to the start of this activity.

Output 4.2: One PCB-contaminated site remediated

Activity 4.2.1: Remediate one PCB-contaminated site

The REG transformer maintenance site, located at Gikondo Industrial Park, which has been closed (and equipment and operations relocated to the REG Jabana interim storage facility) is suspected to be PCB-contaminated.

This project activity will include the following: (i) test the soil at Gikondo Industrial Park for PCB contamination (and other locations, such as Kicukiro Nyanza (Kigali) and Nyamagabe (Southern Province)); (ii) develop contaminated site remediation plans; (iii) undertake technical validation of the remediation plans, and submit for approval;

(iv) undertake and finalise tender for service, with an international service provider, which includes the export of the excavated contaminated soil; (v) conduct training on contaminated site remediation; and (vi) implement the remediation plan, with the potential of testing and applying innovative bioremediation measures (e.g. addressing lower-contaminated soil). An estimated 250 MT of contaminated soil will need to be excavated and disposed. Guidance and training will be provided to relevant stakeholders, such as REG and waste management enterprises, on all steps, from contaminated site analysis to remediation including excavation, collection, handling, repacking, transportation, cleaning of residual contamination, treatment, storage, and export.

Knowledge of soil remediation options developed in other UNDP projects will be applied to this project. Lessons learned to be shared with this project will address: site assessment and risk assessment; remediation technologies including mechano-chemical destruction, thermal desorption, and biodegradation technology; national contaminated sites registration and information system;

development of standards; interim storage; and training. Lessons learned from the testing and application of innovative bioremediation measures in areas with lower levels of PCB or pesticides contamination will also provide important inputs to the development of future interventions in Rwanda and other countries.

This project activity will also be coordinated with the Government's broader initiative to vacate all business activities from the Gikondo Industrial Park by Q4 2021 and initiate restoration and conservation of the wetlands, in which the Industrial Park is located, with the support of the World Bank Rwanda Urban Development Project II (GEF Project ID: 10530).

While an international service provider has been planned for this activity, domestic service providers for disposal will also be considered. The assessment and testing of whether domestic disposal of waste from the contaminated sites would be a viable environmental, financial, and technical solution will be coordinated with Activity 5.2.1 (Design and undertake demonstration pilots to enhance national hazardous waste treatment capacity and environmental performance) and facility-specific environmental performance assessments.

The project will also put in place a project-level Grievance Redress Mechanism (GRM) to provide meaningful means for local communities and affected populations to raise concerns and/or grievances when activities may adversely impact them (e.g. related to contaminated sites remediation or the demonstration pilots to valorise priority waste streams (Activity 5.1.1)).

A site-specific ESIA will be also conducted prior to the start of this activity to address risks from contaminated site remediation.

Output 4.3: *Obsolete POPs and non-POPs pesticides disposed of*

Activity 4.3.1: *Safely handle and dispose of stockpiled obsolete POPs and non-POPs pesticides*

Rwanda has a total of 3 MT of POPs pesticides and 44 MT of non-POPs pesticides stockpiled. Specifically: 3 MT of obsolete POPs pesticides (Lindane 25% and Endosulfan 3% dust); 0.067 MT of confiscated stockpiles of prohibited pesticides; 0.9 MT of solid and 668 liters (~0.7 MT) of liquid obsolete pesticides; 12.5 MT of obsolete fertilizers; 28.823 MT of obsolete pesticides (including some POPs pesticides) that have been temporarily buried at the former Kicukiro Nyanza dumping site; and 14 MT of obsolete pesticides (Pirimiphos) and fungicides (Mancozeb) that have been temporarily buried at the Nyamagabe disposal site and some waste is stored in drums above ground.

This project activity will include the following: (i) Undertake sampling and analysis of stockpiled pesticides as needed; (ii) prepare a financing plan to support identification of domestic or international/bilateral resources for the disposal of contaminated soil; (iii) establish disposal plan including tender for services (for an international service provider); (iv) undertake safe pre-treatment of stockpiled pesticides including recovery, excavation, packaging, and transport; (v) safeguard stored stockpiles; (vi) undertake disposal of stockpiled pesticides in Rwanda or exported as required.

While an international service provider has been planned for this activity, guidance and training will be provided for private sector operators on recovering/excavating, repacking, and safely transporting the obsolete POPs (and non-POPs) pesticides.

This activity will also provide guidance and training for government institutions to support the export procedures of POPs pesticides (as required), as well as PCB- and Hg-containing waste to an appropriate facility(ies) abroad for environmentally sound disposal.

Domestic service providers for disposal will also be considered. The assessment and testing of whether domestic disposal of POPs and non-POPs obsolete pesticides/fertilizers would be a viable environmental, financial, and technical solution (e.g. at CIMERWA and DPMM Kalisimbi/Depot Kalisimbi Ltd) will be coordinated with Activity 5.2.1 (Design and undertake demonstration pilots to enhance national hazardous waste treatment capacity and environmental performance) and the facility-specific environmental performance assessments.

This activity will also be coordinated with Output 4.1 (Remaining PCB-containing equipment and oil phased out/disposed of) and Output 3.1 (regarding Hg and PBDE treatment).

A site-specific ESIA will be also conducted prior to the start of this activity and will address risks from disposal of POPs and non-POPs pesticides.

Outcome 5: Capacity and environmental performance of hazardous wastes treatment facilities improved

Output 5.1: Potential for valorisation of priority waste streams assessed and initiated through engagement of research institutes/universities and private sector partners

Activity 5.1.1: Design and undertake demonstration pilots to valorise priority waste streams

Various assessments conducted in Rwanda have indicated that large quantities and varieties of waste and hazardous waste are produced and either inadequately stored or indiscriminately disposed of at the municipal dump sites. Some valorisation of waste is taking place, for example: e-waste collection, dismantling, and recycling by Enviroserve; and recycling of paper, carton, metal scrap, aluminum, and some plastics such as plastic bags, but conducted at a low scale/capacity. However, there are a number of priority waste streams that have significant potential for valorisation. The main stream sources of hazardous waste in Rwanda are generated by industry, including a wide range of materials such as industrial solvents, waste oils, industrial sludges, and other chemical wastes. Households, SMEs, farms, and the healthcare and construction sectors also generate quantities of hazardous waste including batteries, electrical and electronic equipment, healthcare waste, solvent-based paint and varnish waste, sheep dip, and fluorescent lamps. A strong interest was also expressed from the private sector, during the PPG, to engage in waste valorisation initiatives addressing plastic/polyethylene terephthalate (PET) waste, organic waste, healthcare waste, liquid waste, and methane gas among others.

This project activity will include the following: (i) undertake a waste valorisation assessment of key waste streams (based on the outcomes of the hazardous waste inventory and database; Output 2.1) in partnership with interested private sector partners, research institutes, universities, and CPCIC/NIRDA, followed by technical validation and submission for approval; (ii) design and implement a waste valorisation challenge competition to raise awareness and generate innovative ideas from stakeholders such as SMEs, NGOs, individuals, and investors; and (iii) design and implement waste valorisation pilots, which include the enhancement of technical and financial capacity (facilitated by the engagement of investments including FONERWA and the private sector), consideration of industrial symbiosis^[7] arrangements, and informing the scale-up of waste valorisation concepts into viable

economic activities. Guidance and training will be provided to relevant stakeholders, including public and private sector waste generators and waste management enterprises, to address all of the above steps.

One pilot will address PET recycling. PET bottles are currently sorted and stored at Nduba Landfill where they are compacted and baled (by DPMM Kalisimbi Ltd), but not recycled. DPMM Kalisimbi and Depot Kalsimbi Ltd has been in discussion with Inyange Industries, Bralirwa-Coca-Cola, and COPED to partner in the management of PET bottles. DPMM Kalisimbi, in collaboration with Depot Kalisimbi Ltd, has plans to start (in April 2021 on already secured land) the construction of a warehouse to house a plastic bottle recycling line and convert the PET bottles into flakes, green charcoal, and construction materials, such as pavers, bricks, and tiles. It plans to order the required equipment by June 2021 and start producing pavers from PET (see Annex 14) by August 2021, followed by the production of other products. PET bottle-to-bottle recycling will also be explored including a feasibility study of the market. The project will provide support to Rwanda and relevant private sector partners to: evaluate the PET recycling situation in Rwanda, identify appropriate BAT/BEP for recycling PET in Rwanda, procure equipment, and improve efficiency of PET recycling and marketability of PET-recycled products.

Other priority sectors that may be addressed include the tea industry, paint industry, textile industry, automotive industry, pharmacies, food and beverage industry, construction sector, beauty industry, cosmetic industry, solar products, telecommunications, and healthcare sector. Potential waste streams that may be addressed include, among others: waste oil, plastics (PET and High Density Polyethylene (HDPE)), organic waste, paint waste, tires, textile waste, carton waste, glass, and wastewater. This may involve the following waste valorisation approaches, among others: compost and briquettes made from organic waste; production of alternative liquid and solid fuel (for CIMERWA cement plant) based on the use of organic waste and waste oils; methane gas capture from landfills; and generating energy from healthcare waste incineration. This activity will also take into account the possibility of, and procedures for, importing waste and recyclables from neighbouring countries for environmentally sound treatment in Rwanda.

All relevant stakeholders will be invited to participate in this project activity and will have access to technical advice and support under the project.

This project activity will also develop an online waste management platform with a view to providing a one-stop shop solution that connects all actors in the waste management value chain to promote waste recovery in a larger circular economy context. This will support industrial symbiosis and provide an online market for recycled products to help other initiatives be more viable/scale-up. The platform will build on the experience and lessons learned from Ghana's Waste Recovery Platform (<https://ghanawasteplatform.org>). The platform will be led/hosted by REMA and will also: (i) ensure coordination between all projects/initiatives/stakeholders related to chemicals and hazardous wastes in order to promote collaboration and avoid duplication; (ii) support the development of national partnerships on the management of recyclable materials, and (hazardous) chemicals and wastes; and (iii) provide an outlet to advise the government on any issues related to chemical/(hazardous) wastes, among others.

The national waste management platform will include representation by the public, private, and NGO sectors. The project will support the national waste management platform so that there will be meaningful exchanges between the different public, private, and NGO actors to promote collaboration and avoid duplication. The establishment of the platform and regular meetings between stakeholders will also provide an opportunity for stakeholders to reflect on the progress of the project and propose improvements to its implementation.

This will be undertaken in coordination with Output 2.1, building on the hazardous waste inventory and database,

Activity 3.1.1 regarding demonstration pilots to avoid/reduce the generation of (hazardous) waste and releases through the introduction of cleaner production practices and safer alternatives and Activity 5.2.1 regarding demonstration pilots to enhance national hazardous waste treatment capacity and environmental performance.

In line with the Environmental Social Management Framework (ESMF), an Environmental and Social Impact Assessment (ESIA) will be carried out and an Environmental and Social Management Plan (ESMP) developed at the start of Project Implementation and ahead of the pilots. The ESMP will include a Livelihoods Restoration Plan to address this risk if it was found to be significant.

Output 5.2: Environmental performance of existing waste treatment facilities enhanced and national treatment capacity for hazardous waste increased (volume + diversification) through the introduction of new locally suitable disposal/treatment solutions

Activity 5.2.1: Design and undertake demonstration pilots to enhance national hazardous waste treatment capacity and environmental performance

There are a limited number of waste treatment facilities (e.g. Enviroserve's e-waste recycling facility, CIMERWA, and DPMM Kalisimbi and Depot Kalisimbi Ltd's incineration/treatment and stabilization facilities). However, these facilities are quite instrumental in treating wastes that cannot be avoided, and also rather innovative compared to most other countries in Africa. There is significant potential for, and interest from the private sector in, enhancing the current capacity and performance. This activity will build on the experience from the GEF-4 project regarding the disposal of PCB-contaminated waste and other current waste management practices such as DPMM Kalisimbi and Depot Kalisimbi Ltd's incineration of healthcare waste.

This project activity will address three areas for improvements: (i) improve the environmental performance of the processes applied by these centralized waste facilities in order to reduce releases of uPOPs, heavy metals, POPs, Hg and other hazardous substances; (ii) increase the amount of waste that could potentially be treated by these facilities; and (iii) increase the types of waste that could potentially be treated by these waste treatment facilities.

For example, Enviroserve imported e-waste from DRC and Uganda prior to the COVID-19 pandemic. This was undertaken in compliance with the Basel Convention control system for the transboundary movement of hazardous wastes and other wastes. Enviroserve plans to resume importing of e-waste from DRC and Uganda and expand to other countries in the region for treatment in an environmentally sound manner, including repairing, refurbishing, and recycling. Enviroserve has also hosted delegations from several countries in Africa to share its experience and lessons learned for managing e-waste and will resume this in the future subject to COVID-19 pandemic restrictions.

This project activity will include the following: (i) undertake facility-specific environmental performance assessments and identify process measures to reduce releases (uPOPs, heavy metals, POPs, Hg, and other hazardous substances) and determine domestic capacity for treatment and disposal of hazardous waste in accordance with the Stockholm and Basel Conventions and national legislation; (ii) undertake waste treatment assessments for priority waste streams to identify interim storage needs, safekeeping measures required, and locally suitable disposal/treatment solutions for hazardous waste streams, including the potential for increasing the facilities' capacity in terms of both volume and type of waste; and (iii) design, implement, and assess for viability demonstration pilots to test locally

suitable disposal/treatment solutions for hazardous waste streams. Guidance and training will be provided to relevant stakeholders, including waste treatment facility operators (such as Enviroserve, CIMERWA, and DPMM Kalisimbi and Depot Kalisimbi Ltd), REMA, and others to address all of the above steps.

This will be undertaken in coordination with: Output 2.1, regarding the hazardous waste inventory and database; Output 3.1, regarding the avoidance/reduction of the generation of (hazardous) waste and releases through the introduction of cleaner production practices and safer alternatives; and Component 1 regarding regulatory interventions (such as PPP and EPR) and the introduction of incentives; among others.

This activity will also closely collaborate with potential investors (e.g. FONERWA, banks), existing private sector waste management operators (e.g. Enviroserve, CIMERWA, DPMM Kalisimbi and Depot Kalisimbi Ltd, and COPED), and others to facilitate investments in the waste management sector and to increase the economic viability of the hazardous waste management sector.

The selection of sites for the demonstration pilots (and interim storage facilities; Output 5.3) will consider that the infrastructure to be used is not located in areas classified as high risk due to landslides, erosion, floods, or extreme weather conditions. A climate vulnerability risk assessment will be undertaken as part of the ESIA that will be prepared as described in the ESMF and proposed adaptation measures will be included in the ESMP.

Output 5.3: Capacity improved of existing hazardous waste interim storage facilities to handle additional hazardous waste streams

Activity 5.3.1: Assess and improve capacity of existing hazardous waste interim storage facilities

Obsolete wastes (including obsolete pesticides and laboratory wastes) are currently stored in inadequate locations with inadequate conditions (e.g. at district offices, police stations, Ministry of Agriculture (MINAGRI) and Energy Utility Corporation Limited (EUCL) stores, research labs, schools, and universities). Other waste streams (to be confirmed and specified through the implementation of the hazardous waste inventory and database; see Output 2.1) may also require interim storage.

This project activity will include the following: (i) based on the detailed hazardous waste inventory (Output 2.1) assess what types of wastes present or generated in Rwanda require interim storage at the national/regional level (while awaiting disposal/treatment); (ii) identify the type of measures that need to be put in place to ensure safekeeping of these wastes (e.g. capacity, occupational safety and health, environmental protection, security);

(iii) develop an interim storage facilities upgrade plan including recommendations for capacity and type of interim storage required; (iv) undertake technical validation of the assessment and interim storage facilities upgrade plan and submit for approval; and (v) upgrade/expand existing interim storage facilities? infrastructure and related management system to international standards and can accommodate the necessary hazardous waste streams. Guidance and training will be provided to relevant stakeholders including REMA and other relevant stakeholders to address all of the above steps.

This activity may build on the REG interim storage facility (Jabana) that was established through the GEF-4 PCB project and which has additional space available that could potentially be used for the

interim storage of other hazardous wastes (e.g. obsolete pesticides, POPs/Hg containing wastes) awaiting disposal/treatment. Other options, such as a public-private-partnership to strengthen a private sector company's interim storage capacity and national storage role will also be considered. For example, DPMM Kalisimbi/Depot Kalisimbi Ltd has expressed strong interest in this approach and already has specific storage facilities for hazardous waste and sufficient land to construct additional facilities depending on the determined needs. Private sector compliance with related regulations may also be easier to achieve and enforce compared to public sector facilities.

The ESIA and ESMP will also addresses risks from improving the capacity of existing hazardous waste interim storage facilities.

Component 4: Raise awareness to support behavioral change, capture and disseminate experiences, lessons-learned and environmental best practices

Outcome 6: Awareness raised on the sound management of POPs, Hg, and related wastes

Output 6.1: Awareness raised of 7,500 people (4,000 female and 3,500 male) on the sound management of POPs chemicals and Hg and related wastes through tailored training and awareness raising activities

Activity 6.1.1: Design and implement an awareness raising plan

There is generally a low level of awareness among a wide range of stakeholders on the sound management of POPs, Hg, and other (hazardous) wastes and adverse effects. This contributes to a lack of household participation in sorting waste into different streams to facilitate recycling, and a lack of appropriate practices by waste management companies and lack of knowledge on existing documents and policies. There is currently no awareness raising plan about the sound management of POPs and Hg and related wastes.

This project activity will design and implement an awareness raising plan that will focuses on a number of axes and specific target groups: (i) the phase-out of Hg-containing products including increasing awareness and capacity of hospital staff, health workers, and pharmacies and the introduction, use, and calibration of Hg-free alternatives;

(ii) increasing the collection of waste streams for which already valorisation and/or recycling options exist

(e.g. e-waste, medical waste, plastics, used motor oil); (iii) increasing awareness and capacity of interested private sector entities to explore opportunities and potential investments (e.g. FONERWA) related to the collection, management, treatment, and disposal of chemicals and waste of concern; (iv) increasing awareness of customs, private sector, enforcement entities, ministries, and others on the types of products that may contain POPs and Hg and their suitable alternatives; and (v) national communication to change public perception and its relationship with waste, take ownership of the implementation of best waste management practices, and create a willingness to pay for waste management services.

The project will identify and involve NGOs/CSOs involved in carrying out awareness raising activities on the safe use of chemicals or other relevant environmental or health-related issues to support implementation of the awareness raising plan.

Outcome 7: Project results sustained and replicated

Output 7.1: Results, lessons-learned, and best practices captured in knowledge products and disseminated at national, regional, and global level to support replication (including development and implementation of an awareness raising and knowledge management plan)

Activity 7.1.1: Develop and implement a knowledge management (KM) plan that extracts, compiles, and disseminates experiences, lessons-learned, knowledge and best practices including yearly lessons-learned reports, case study reports, and end of project

Rwanda serves as an example to many African countries and developing nations in other regions with its past initiatives in the area of chemicals and waste management, such as the: 2008 ban of plastic bags; public-private-partnerships for waste collection in large municipalities, like Kigali; and the second-ever Africa-based e-waste recycling facility, in partnership with Enviroserve, FONERWA (the Rwanda Green Fund), and the Government.

This project activity will develop and implement a knowledge management (KM) plan that will extract, compile, and disseminate experiences, lessons-learned, knowledge and best practices from all the project interventions through the development of a number of knowledge products in order to support national, regional, and global replication.

Output 7.2: M&E and adaptive management applied in response to needs and Mid-term Evaluation findings

Activity 7.2.1: Apply standard UNDP/GEF M&E and adaptive management processes in response to project oversight needs and Mid-term Evaluation findings

Activity 7.2.2: Implement the Gender Action Plan to mainstream gender throughout project activities

Activity 7.2.3: Develop and implement an ESIA and ESMP based on the SESP

This project activity will: (i) apply standard UNDP/GEF M&E and adaptive management processes in response to project oversight needs and Mid-term Evaluation findings; (ii) implement the Gender Action Plan (prepared during the PPG phase) to mainstream gender throughout project activities; and (iii) develop and implement an Environmental and Social Impact Assessment (ESIA) and Environmental and Social Management Plan (ESMP) based on the UNDP Social and Environmental and Social Screening Template (SESP) (prepared during the PPG phase).

The ESIA report and ESMP will provide a set of avoidance, mitigation, monitoring, and institutional measures ? as well as actions needed to implement these measures ? to achieve the desired social and environmental sustainability outcomes. The measures will be adopted and integrated into the project activities, monitoring and reporting framework and budget, and captured in a revised SESP for the project. The ESMP will include: a spill prevention and management plan; and an occupational health and safety plan. If confirmed by the ESIA as required for SES compliance, then the ESMP will also include: a livelihoods restoration/action plan; and site-specific management plans.

The ESIA and ESMP will addresses risks from the following activities: Demonstration pilots to avoid/reduce the generation of (hazardous) waste and releases, valorise priority waste streams, enhance national hazardous waste treatment capacity and environmental performance, and improving capacity of existing hazardous waste interim storage facilities (Activities 3.1.1, 5.1.1, 5.2.1, and 5.3.1); Disposal of Hg-containing products, PBDE, PCB-containing equipment and stockpiled obsolete POPs and non-POPs pesticides (Activities 3.1.2, 3.1.3, 4.1.1, and 4.3.1); and Remediating a PCB-contaminated site (Activity 4.2.1).

4) Alignment with GEF focal area and/or Impact Program strategies

The project is fully aligned with the GEF-7 Programming Directions and its Chemicals and Waste Focal Area Strategy. The project is aligned, for example, with the GEF-7 investment framework that aims (among other objectives) to:

? Eliminate/restrict/control emissions of the chemicals listed in Annex A, B and C of the Stockholm Convention

? Eliminate emissions and releases of mercury in activities and processes listed in Annexes A, B, C and D of the Minamata Convention on Mercury, particularly those activities that emit or uses the highest level of mercury as well as support the control of supply and trade, waste and sound management and storage of mercury and mercury containing waste

? Support the objectives of the Strategic Approach to International Chemicals Management, specifically in supporting the global phase out of the manufacture of lead based paint, building capacity for management and disposal of e-waste, elimination of chemicals of global concern from the supply chain of commercial and domestic products and support to countries to control and prevent the unsafe use and disposal of highly hazardous pesticides

This project has been designed in accordance with the principles of GEF-7: cost-effectiveness; sustainability; innovation; private sector involvement; promotion of resource efficiency (including circular economy approaches); and builds on the use of existing networks.

This project has also been designed in accordance with the following main GEF-7 chemicals and waste focal area programs:

? Industrial Chemicals Program (Program 1), which seeks to eliminate or significantly reduce chemicals subject to better management by the Stockholm and Minamata Conventions and SAICM, and through supporting projects and programs that address: chemicals and waste at the end of life; chemicals that are used or emitted from or in processes and products; and management of the waste, or waste containing these chemicals. The project will address, among others: elimination of the use of PCBs in equipment by 2025; ESM of PCBs by 2028; ESM of Hg/Hg-containing waste; prevention of waste/products containing POPs from entering material recovery supply chains (including e-waste management with the aim of preventing e-waste from entering solid waste); introduction and use of BAT/BEP to minimize and ultimately eliminate releases of uPOPs and Hg from major source categories included in both the Stockholm and Minamata Conventions; and elimination of the use of Hg, POPs, and Hg in products by phasing out manufacturing of the pure chemicals and introduction of alternatives in the products with a preference to non-toxic chemicals.

? Agriculture Chemicals Program (Program 2), which seeks to address the agricultural chemicals that are listed as POPs under the Stockholm Convention and agricultural chemicals that contain mercury or

its compounds. The specific areas that will be addressed by the project in line with this program include: (i) where the chemicals are in use, investments will be made to introduce alternatives; and (ii) targeting the reduction of Endosulfan, Lindane, and highly/severely hazardous pesticides that enter the global food supply chain as well as address end of life, waste and obsolete POPs and Hg-based agricultural chemicals and management and safe disposal of agricultural plastics contaminated by POPs and mercury based agricultural chemicals.

? Least Developing Countries and Small Island Developing States Program (Program 3), which seeks to address the sound management of chemicals and waste through strengthening the capacity of sub-national, national, and regional institutions and strengthening the enabling policy and regulatory framework in these countries including through the development of public-private partnerships. The project will address the following in accordance with this program: implementing Sustainable Low and Non-Chemical Development Strategies in SIDS and LDCs; promoting BAT/BEP to reduce uPOPs releases from sectors relevant to the Minamata and Stockholm Conventions in SIDS and LDCs; Promoting cleaner health-care waste management based on the lessons learnt from GEF funded healthcare waste projects to reduce uPOPs and Hg releases; strengthening the management system for e-waste, addressing all stages of the life cycle (i.e. acquisition of raw materials, design, production, collection, transportation and recycling) in SIDS and LDCs; phasing out of Hg-added products; undertaking gender mainstreaming and project monitoring and evaluation; and developing a strategy to ensure that technical assistance and investments are solidly linked to enhance countries' ability to deal with the management of POPs and Hg in a sustainable manner.

The proposed project is fully aligned with the GEF-7 Programming Directions of April, 2018 within its *Chemicals and Waste Focal Area Strategy*, aiming at eliminating / restricting / controlling emissions of the chemicals listed in annexes A, B and C of the Stockholm Convention as well as supporting the objectives of the *Strategic Approach to International Chemicals Management* (including building capacity for management and disposal of e-waste and eliminating chemicals of global concern from the supply chain of commercial and domestic products).

5) Incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing

Contributions from the baseline are predominantly originating from: (i) chemicals and waste related inventory activities, both financed by the GEF as well as the Government; (ii) capacity built under the GEF-4 PCB management project, establishment of an interim storage facility, drafting of the PCB law and guidelines, and capacity built at the CIMERWA cement kiln, which resulted in the disposal of 52.2 tonnes of PCB contaminated oil (<1,000 ppm); (iii) existing capacity for the collection, dismantling, and export of e-waste at the Enviroserve/GoR/FONERWA facility; (iv) existing capacity for the collection, treatment, and disposal of healthcare waste at the DPMM Kalisimbi/Depot Kalisimbi Ltd incinerators; (v) existing capacity of DPMM Kalisimbi/Depot Kalisimbi Ltd for hazardous waste collection, transport, and disposal as well as approximately 35 companies in the collection, transport, and disposal of municipal waste at the current Nduba dumpsite, and public-private partnership between

WASAC, COPED, and DPMM Kalisimbi/Depot Kalisimbi Ltd; and (vi) existing hazardous waste interim storage capacity at DPMM Kalisimbi and Depot Kalsimbi Ltd.

Co-financing contributions from partners that will help advance the project's objectives are: support from REMA and Ministry of Environment in all project components; waste collection fees from households and enterprises (City of Kigali); expansion of DPMM Kalisimbi and Depot Kalsimbi Ltd's capacity for healthcare and hazardous waste treatment through procurement of a BAT incinerator and strengthening plastic recycling, interim storage, and laboratory capacity; Enviroserve and FONERWA's investment and Enviroserve's recurrent expenditures in the operation of the e-waste recycling facility; introduction of resource efficient and cleaner production practices in priority sectors through CPCIC/NIRDA; CIMERWA's burning of PCB oil and PBDE-containing plastic; MEGERWA's investment in warehouse maintenance; and support with the development of cleaner production and waste valorization in priority sectors from Agruni, Agrolplast, PEZ, Utexrwa, and COPED; and in-kind support ADENYA in awareness raising.

The project, using GEFTF contributions, will build on these baseline activities and complement co-financing interventions to further strengthen the enabling policy/regulatory framework to create (financial) incentives for the sound management of chemicals, introduction of safer alternatives, and minimization of hazardous waste generation and its environmentally safe treatment. Without GEFTF support, advances in improving the policy and regulatory framework would not be fast enough to keep up with the rapidly growing industrial sector in the country or allow Rwanda to meet its commitments under Stockholm and Minamata Conventions.

GEFTF contributions will also focus on phasing out Hg-containing products (Minamata Convention's deadline being 2020 for Rwanda); introducing POPs and Hg alternatives; minimizing hazardous waste generation and harmful releases through the introduction of safer alternatives and cleaner (production) processes; further enhancing the environmental performance and treatment capacity of waste treatment facilities; and initiating waste valorization through engagement with research institutes/universities and private sector partners. Without GEF support these types of interventions would not be as actively pursued by the private sector and additional project support is expected to make the difference between a status quo situation and innovative industry actions.

GEFTF contributions will also be used to further engage potential investors (such as FONERWA - the Rwanda Green Fund) to create the capacity of interested private sector partners to apply for FONERWA seed funding to launch new endeavours to green their operations/processes or start the production of green products. The project will also provide the necessary support to support the implementation of "greening" efforts at facility/industry level, which without project support might less likely take place or be less successful.

6) Global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF)

The GEF is the financial mechanism for the Stockholm Convention on Persistent Organic Pollutants (POPs) and the Minamata Convention on Mercury and provides some funding for the Strategic Approach to International Chemicals Management (SAICM). GEF investments in the chemicals and

wastes focal area seek to prevent a toxic legacy through both reducing existing stockpiles and preventing the use and emissions both current and future of the chemicals covered under the Stockholm and Minamata Conventions. The GEF 7 results framework has set out its GEB targets in the following terms: Reduction, disposal/destruction, phase out, elimination and avoidance of chemicals of global concern and their waste in the environment and in processes, materials and products (thousand metric tons of toxic chemicals reduced); and Reduction, avoidance of emissions of POPs to air from point and non-point sources (grams of toxic equivalent gTEQ).

The objective of this project is to support the Government of Rwanda and its private and public sector in decoupling hazardous waste generation and harmful releases from economic growth by enhancing the introduction of the 4R approach (Reuse, Reduce, Recycle, and Recovery) in priority industries and economic sectors, while at the same time enhancing private sector-led national waste treatment capacity to ensure the sound management of wastes, generate income, create jobs, and protect human health and the environment.

This will prevent future accumulation of materials and chemicals entering Rwanda that contain POPs and Hg and other harmful chemicals; minimize the generation of hazardous waste, releases, and emissions; and safely manage and dispose of existing harmful chemicals, products, and materials in the country and future unavailable waste.

The project's Global Environmental Benefits (GEBs) can be summarized as follows:

- ? Eliminate/dispose in Rwanda, and where required abroad, 122 MT of PCB-contaminated waste and 250 MT of PCB-contaminated soil
- ? Eliminate/dispose abroad 47 MT of obsolete pesticides, including 3 MT of POPs pesticides
- ? Eliminate/dispose in Rwanda 35 MT of PBDEs (35,000 MT of PBDE-containing waste)
- ? Phase-out/eliminate/dispose of 1 tonne of mercury through the phase-out of Hg-containing products (40 MT of Hg-containing waste)
- ? Reduce up at least 24.5 g-TEQ from the incineration of waste through the introduction of BEP and BAT in hazardous waste treatment facilities.

7) Innovativeness, sustainability and potential for scaling up

Innovation: The proposed project for Rwanda is considered innovative. First and foremost, Rwanda is one of the few countries in the world where a ban on single use plastic bags has been fully and effectively implemented (and for over a decade). Based on experiences and lessons learned from the introduction and implementation of this plastic bag ban, it is expected that the phase-out of Hg- and POPs-containing products and the introduction of safer alternatives under the project will be implemented as effectively and successfully, and will demonstrate to other countries located in the region and beyond that the introduction and implementation of such measures is doable, feasible, and viable.

Furthermore, Rwanda is one of the few countries in Africa where an e-waste facility has been established with private sector (Enviroserve) and government support (through provision of seed money from FONERWA (the Rwanda Green Fund)), and is operating in a manner that is achieving compliance with international standards. The project will build on the activities of the e-waste facility and work with Enviroserve on (i) the feasibility of locally suitable disposal/treatment solutions for

additional hazardous waste streams (e.g. lead batteries, Hg-containing waste); (ii) subsequently introduce management/treatment processes for new hazardous waste streams; and (iii) further enhance the environmental performance of the waste treatment facilities (under Activities 5.1.1 and 5.2.1 among others). Such achievements would be a first in the region. Similar collaboration will also take place with other waste management operators including DPMM Kalisimbi/Depot Kalisimbi Ltd and COPED.

The project will also focus on further enhancing the environmental performance of CIMERWA as well as assessing opportunities for expanding the type of hazardous waste streams that could be treated by the cement kiln and which would be suitable options as alternative fuels and/or sources of income (e.g. PBDE-plastics, waste oils from garages). As part of the UNDP/GEF project 'Management of PCBs stockpiles and equipment containing PCBs', capacity of the CIMERWA cement kiln was built and the process adjusted to enable the facility to dispose of PCB-contaminated oil (a total of 55.2 MT of PCB-contaminated oil was treated in that manner). Furthermore, the project will also aim to formalize CIMERWA's offer of PCB-contaminated waste oil disposal for REG, to allow for the disposal of approximately 122 MT under the current project (subject to appropriate levels of PCB PPM) and additional identified contaminated oil to be disposed of in the future (in case more will be identified). The project will also explore the disposal of PBDE-contaminated plastic at CIMERWA. An assessment of disposal capacity at DPMM Kalisimbi/Depot Kalisimbi Ltd and other relevant facilities in Rwanda will also be undertaken. Finally, the project will also assess opportunities for disposal of PCB-contaminated oil, PBDE-plastic, and other waste, as well as the treatment of recyclables, from neighbouring countries in the region.

Furthermore, the project will also look at suitable remediation options for the contaminated former REG transformer maintenance site (Gikondo Industrial Park) and other contaminated sites. The project will test the site and assess the opportunity to remediate the site using innovative bioremediation solutions that would be in line with BAT/BEP as included in the guidelines of the Stockholm Convention.

Sustainability: In terms of sustainability, the proposed project will:

? Put in place regulatory measures/incentives to ensure the availability of long-term financial resources for the treatment of hazardous waste streams (e.g. development of an EPR framework, initially focusing on a number of priority products; introduction and implementation of the PPP; and strengthening of the national legislative framework pertaining to POPs/Hg).

? Build on on-going efforts driven by the private sector (e.g. Enviroserve e-waste facility; DPMM Kalisimbi/Depot Kalisimbi Ltd; COPED; CIMERWA; recycling companies; among others) to improve their performance and increase their capacity to expand services to additional hazardous waste streams, while focusing on waste streams of which the treatment or valorisation can create income and generate livelihoods/jobs.

? Create capacity of interested private sector partners to apply for FONERWA seed funding to launch new endeavours in waste management, waste valorisation, waste recycling, and waste treatment, in order to reduce the risks of initial investments.

? Strengthen capacity of Customs and environmental enforcement/inspection officers including data availability that supports importing and systems to limit/eliminate the import and disposal of (future) banned chemicals and related wastes and to improve the management of hazardous wastes.

Potential for scaling-up: There is substantial potential for scaling-up within the country, as well as within the African continent. Initially the project will predominantly focus on the capital Kigali, but potential for scaling up lies in the expansion to secondary cities as well as newly established industrial zones.

The potential for scaling-up within the African continent predominantly lies in the fact that Rwanda is an excellent example for other African countries and is demonstrating new approaches (and their

successful implementation), which could be replicated in other countries. These approaches range from the implementation of a ban on single use plastics, to the treatment of complicated hazardous waste streams, to the greening of their industry and its relocation to industrial zones. The synergy of this project with the Rwanda innovation funds such as FONERWA is also to be underlined as great potential to foster replication and scale-up in Rwanda and for providing a model for implementation of such funds in other developing countries.

[1] <http://worldpopulationreview.com/countries/rwanda-population/>

[2] 16.5% as of 16 February 2021 (<https://data.worldbank.org/indicator/FR.INR.LEND?locations=RW>)

[3] ?The plant is suitable for burning oil with an average concentration of PCB in the oil up to 1,000 ppm, at an average flow rate of about 300 L/h fed through the main burner?, as reported by the laboratory that completed this independent technical assessment.

[4] Four (4) transformers are still in service: 2 at Mironko Plastic Industries in Kigali, 1 at Ruhengeri Hospital (Musanze), and 1 at La Palisse hotel.

[5] Short and medium term hazardous, toxic and radioactive wastes control strategy and plan in Rwanda, 2008

[6] One company recycles white paper into toilet paper; 1 company recycles carton into egg trays ? the rest of the carton is exported; metal scrap is sold to two steel industries; Aluminium is exported; 4 LDPE recycling plants which manufacture tubing, plastic sheets and bin liners; and HDPE is turned into plastic chairs and jerry cans.

[7] Industrial symbiosis is the process by which wastes or by-products of an industry or industrial process become the raw materials for another.
(https://ec.europa.eu/environment/europeangreencapital/wp-content/uploads/2018/05/Industrial_Symbiosis.pdf)

1b. Project Map and Coordinates

Please provide geo-referenced information and map where the project interventions will take place.



Map No. 3717 Rev. 11.1 UNITED NATIONS
September 2018

Department of Field Support
Geospatial Information Section (formerly Cartographic Section)

1c. Child Project?

If this is a child project under a program, describe how the components contribute to the overall program impact.

N/A

2. Stakeholders

Select the stakeholders that have participated in consultations during the project identification phase:

Civil Society Organizations Yes

Indigenous Peoples and Local Communities Yes

Private Sector Entities Yes

If none of the above, please explain why:

Please provide the Stakeholder Engagement Plan or equivalent assessment.

In addition, provide a summary on how stakeholders will be consulted in project execution, the means and timing of engagement, how information will be disseminated, and an explanation of any resource requirements throughout the project/program cycle to ensure proper and meaningful stakeholder engagement

During the PPG phase, key stakeholders and their roles and responsibilities were identified in the context of the project, which also led to the development of the Stakeholder Engagement Plan (SEP)(Annex 7 of the ProDoc). The project will work with a multitude of partners and initiatives to achieve these objectives. Table 1 below provides an overview of the partners/initiatives to address development challenges and the role of the partner/initiative in the implementation of the project, which will support achievement of the project's results.

Partner/Initiative	Role in project implementation
Government ? Rwanda Environmental Management Authority (REMA)/Ministry of Environment (MoE)	<p>? Primary responsibility for the management of this project, including the monitoring and evaluation of project interventions, the achievement of project results and the effective use of UNDP resources for the GEF</p> <p>? Assist in the implementation of activities to improve compliance with the chemicals and waste conventions</p> <p>? Support the implementation of the recommendations of the Stockholm NIP, relevant aspects of the MIA (when available), and as well as other national plans</p> <p>? Lead the development of new/revised legislation, regulations, and guidelines pertaining to PCBs, POPs, Hg, and hazardous wastes, and tools such as PPP and EPR</p> <p>? Lead the development and testing of the Hazardous Waste Inventory</p> <p>? Oversee all demonstration pilots and disposal activities</p> <p>? Provide co-financing for the implementation of the project</p>

<p>Government ? Ministry of Health and Social Protection (MINISANTE)</p>	<ul style="list-style-type: none"> ? Serve as key partner on healthcare waste management and disposal in a multi-sectoral collaboration ? Facilitate the implementation of the project within the framework of healthcare waste management ? Support the development of new legislation, regulations, guidelines pertaining to PCBs, POPs, Hg, and hazardous wastes, and tools such as PPP and EPR ? Support the development of an assessment of Hg-containing healthcare products and waste (in coordination with MIA) ? Support the development and implementation of a national strategy for phasing-out Hg-added thermometers and sphygmomanometers ? Support the provision of guidance and training at healthcare facilities on the collection, separation, handling, and disposal of Hg-containing wastes, the selection, use, and calibration of Hg-free alternative, and green procurement ? Support the procurement of the Hg-free medical devices in the healthcare sector ? Support the health related aspects of project activities including awareness raising and gender mainstreaming ? Ensure linkages between the project remediation of the PCB-contaminated transformer maintenance site (Gikondo) and the Government's broader initiative to restore the wetlands at Gikondo Industrial Park, in which the maintenance site is located
<p>Government ? Ministry of Infrastructure (MININFRA) & Water and Sanitation Cooperation (WASAC)</p>	<ul style="list-style-type: none"> ? Support implementation of investment and labour-intensive Water and Sanitation projects; fund sanitation projects; prepare, monitor and regulate water quality and hygiene standards; set policies related to sanitation, water supply, infrastructure, urbanization and settlements; and support districts in the construction of water supply systems, latrines; and hygiene promotion ? Support water production and distribution in countrywide; hold responsibility for urban sewerage systems and sludge emptying services; coordinate all activities related to the programmes aimed at development of water and sanitation; sensitize users of water and sanitation infrastructure; ensure proper management of water and sanitation; fund the construction of sanitation and water facilities; and support waste management related to the project (e.g. Nduba Landfill operations) ? Collect waste collection fees from households and enterprises to help fund waste management practices and improvements ? Support project activities related to control the trade of industrial POPs and the products that contain them

Government ? City of Kigali	<ul style="list-style-type: none"> ? Support project activities related to management of household and municipal waste ? Ensure linkages are made, where applicable, between the project and the establishment of a fecal sludge treatment plant (by CoK in partnership with WASAC), and with initiatives for improving Nduba Landfill ? Advise on public-private partnerships for waste management ? Provide co-financing for the implementation of the project
Government ? Rwanda Utilities Regulatory Authority (RURA)	<ul style="list-style-type: none"> ? Ensure that basic services including Water and Sanitation are provided according to the required standards and that there are good conditions for fair completion in provision of those public services ? Provide inputs into and review the development of new legislation, regulations, guidelines pertaining to PCBs, POPs, Hg, and hazardous wastes, and tools such as PPP and EPR ? Support the implementation of project activities to design and undertake demonstration pilots to enhance national hazardous waste treatment capacity and environmental performance; and assess and improve capacity of existing hazardous waste interim storage facilities
Government ? Rwanda Bureau of Standards (RBS)	<ul style="list-style-type: none"> ? Participate in inspection of Sanitation systems of hotels and other businesses along with MINISANTE, REMA and the City of Kigali ? Provide inputs into and review the development of new legislation, regulations, guidelines pertaining to PCBs, POPs, Hg, and hazardous wastes, and tools such as PPP and EPR ? Provide technical expertise to project beneficiaries (healthcare, waste treatment facilities, hotels, among others) in introducing cleaner production practices ? Support the introduction of Hg-free alternatives ? Support laboratory aspects of the project
Government ? Rwanda Revenue Authority (RRA), Customs Department, and MAGERWA	<ul style="list-style-type: none"> ? Help increase Rwanda Customs services awareness of waste streams controlled by the Stockholm and Minamata Conventions and set SOPs with REMA in order to take appropriate action in case of suspected irregularities ? Embed introductory modules on waste in primary and recurrent training programmes for Customs officers ? Provide inputs into and review the development of the Hazardous Waste Inventory
Government ? FONERWA	<ul style="list-style-type: none"> ? Support the development of new legislation, regulations, guidelines pertaining to hazardous wastes, especially e-waste ? Support to Enviroserve infrastructure

Government ? Rwanda Energy Group (REG)	<p>? Support revision, approval, and implementation of the PCB Law</p> <p>? Support the phase-out of remaining PCB-containing/contaminated equipment, oil, and waste owned by REG (and other holders)</p> <p>? Support the disposal/treatment of PCB-containing/contaminated equipment, oil, and waste</p> <p>? Support the remediation of the PCB-contaminated transformer maintenance site (Gikondo)</p>
Government ? Universities/research institutes/schools including CPCIC/NIRDA, University of Rwanda, and Rwanda Resource Efficient and Cleaner Production Centre (RRECPC)	<p>? Provide inputs into and review the development of new legislation, regulations, guidelines pertaining to PCBs, POPs, Hg, and hazardous wastes, and tools such as PPP and EPR</p> <p>? Provide technical expertise to the development of the Hazardous Waste Inventory</p> <p>? Provide technical expertise to project beneficiaries (industry, agriculture, healthcare, waste treatment facilities, among others) in introducing cleaner production practices, supporting the phase-out of harmful chemicals and the identification, assessment, and introduction of safer alternatives (e.g. to POPs, Hg, and other chemicals of concern)</p> <p>? Support the implementation of project activities to design and undertake demonstration pilots to valorise priority waste streams; design and undertake demonstration pilots to avoid/reduce the generation of (hazardous) waste and releases through the introduction of cleaner production practices and safer alternatives; and design and undertake demonstration pilots to enhance national hazardous waste treatment capacity and environmental performance including the feasibility of locally suitable disposal/treatment solutions for hazardous waste streams (e.g. new POPs, e-waste, Hg containing waste, lead batteries,)</p> <p>? Support the introduction of new/enhanced treatment processes introduced led by the private sector</p> <p>? Provide co-financing for the implementation of the project</p>
Private sector ? PCB holders: Banks and Hotel	<p>? Support the phase-out of remaining PCB-containing/contaminated equipment, oil, and waste owned by REG (and other holders)</p> <p>? Support the disposal/treatment of PCB-containing/contaminated equipment, oil, and waste</p>

<p>Private sector ? Hazardous waste treatment facilities and other waste collection and disposal companies (including Enviroserve Rwanda Green Park; CIMERWA; D?p?t Kalisimbi Ltd; and others)</p>	<ul style="list-style-type: none"> ? Provide inputs into and review the development of new legislation, regulations, guidelines pertaining to the relevant fields of operation ? Provide inputs to the design of, and relevant data for inclusion in, the Hazardous Waste Inventory ? Improve the environmental performance of the respective waste treatment facilities and increase treatment capacity (volumes/additional hazardous waste streams) ? Support the assessment of the feasibility of locally suitable disposal/treatment solutions for hazardous waste streams ? Build/further improve capacity for the collection, packaging, transportation, storage, treatment/disposal of POPs/Hg-containing and other hazardous wastes ? Support the implementation of project activities to design and undertake demonstration pilots to valorise priority waste streams; support recycling; and to design and undertake demonstration pilots to avoid/reduce the generation of (hazardous) waste and releases through the introduction of cleaner production practices and safer alternatives ? Support the improvement of national capacity of existing hazardous waste interim storage facilities ? Provide co-financing in the form of investments in technologies/infrastructure to treat hazardous wastes (including those wastes containing industrial POPs/Hg/chemicals of concern) ? Support the design of the awareness raising plan/campaign to increase collection rates of particular hazardous waste streams
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<p>Private sector ? Chemical companies (manufacturers and distributors), tea industry, paint industry, textile industry, automotive industry, agro-companies pharmacies, food and beverage industry, construction sector, beauty industry, cosmetic industry, and healthcare sector including Prime Economic Zones Ltd., Inyange Industries, Utexrwa Industry, COPED, Braliwara/Coca-Cola, AGRUNI Ltd., and AgroPlast, solar product companies, telecommunication companies, among others</p>	<ul style="list-style-type: none"> ? Provide inputs into and review the development of new legislation, regulations, guidelines pertaining to the relevant fields of operation ? Provide inputs to the design of, and relevant data for inclusion in, the Hazardous Waste Inventory ? Support and participate in the implementation of project activities to design and undertake demonstration pilots to valorise priority waste streams; and to design and undertake demonstration pilots to avoid/reduce the generation of (hazardous) waste and releases through the introduction of cleaner production practices and safer alternatives ? Support the assessment of the feasibility of locally suitable disposal/treatment solutions for hazardous waste streams ? Provide co-financing in the form of investments in technologies/infrastructure to valorise priority waste streams, support recycling, and avoid/ reduce the generation of (hazardous) waste and releases through the introduction of cleaner production practices and safer alternatives ? Support the design of the awareness raising plan/campaign to increase collection rates of particular hazardous waste streams ? Participate in the "best performer awards" programme for industries/SMEs
<p>Communities located in poor urban and rural areas that are living close to contaminated sites, industry, or waste dumps</p>	<ul style="list-style-type: none"> ? Communities, in partnership with local and national CSOs/NGOs/CBOs and environmental authorities, will support the monitoring of project activities carried out in their areas (e.g. remediation of contaminated sites) and participate in the development of a comprehensive awareness raising/communication strategy (Component 4) as well as provide inputs to project activities that are relevant to the general public (e.g. waste segregation at source, phase-out of Hg-containing products, reduction of open burning, increasing collection rates for e-waste) ? Participating in green jobs created with support of the project, which will benefit local communities
<p>CSOs/NGOs/IGOs ? Association pour le Développement de Nyabimata (ADENYA), and others, Global Green Growth Initiative Rwanda (GGGI), and others</p>	<ul style="list-style-type: none"> ? Participate in the development of a comprehensive awareness raising/communication and knowledge management strategy for all project activities ? Support awareness raising activities, in partnership with local CBOs and NGOs, in order to reach project beneficiaries and stakeholders ? Support dissemination of project results at national and local level ? Supporting studies and research in the field of chemicals and hazardous products ? Provide co-financing for the implementation of the project

Audiovisual media, written press, social networks	? Serve as main vectors for conveying information related to project implementation to the public ? Participate in the implementation of the project ? Support awareness campaigns for the general public
Minamata Initial Assessment	? Serve as a key input for the assessment of Hg-containing products and related management interventions
Green City Kigali	? Coordinate with this project regarding household waste management, hazardous waste management, cleaner production practices, and introduction of safer alternatives
Zero Waste Strategy Project	? Coordinate with this project regarding Zero Waste Strategy Project outputs (and specifically related to Kigali) including identifying challenges and opportunities; analysing and reviewing existing plans; proposing an initial strategy towards zero waste; developing training material; describing future concrete projects; and capacity building for a waste management association

Select what role civil society will play in the project:

Consulted only; Yes

Member of Advisory Body; Contractor; Yes

Co-financier;

Member of project steering committee or equivalent decision-making body;

Executor or co-executor; Yes

Other (Please explain)

3. Gender Equality and Women's Empowerment

Provide the gender analysis or equivalent socio-economic assesment.

The project will take into account the vulnerabilities, needs, experiences and skills of women and men as an integral dimension of the implementation, monitoring, and evaluation processes. This will result in the participation and benefit of women and men according to their respective needs and ensure that the project draws on the full range of knowledge, skills, and expertise needed to achieve maximum development results.

The gender analysis undertaken during the PPG (Annex 9 of ProDoc) revealed that gender integration in the hazardous waste management and recycling sector has been minimal in general, there is limited awareness and education in the country regarding gender mainstreaming in hazardous waste management, and an associated national gender action plan has not been put in place. National data on gender and chemicals and waste is scarce.

In some areas, Rwanda has made remarkable progress on gender equality. For example, it ranks first worldwide for women's political participation. Rwandan women secured 61% seats in parliament[1], 52.3% in cabinet and 32% ambassadorial positions and 49.7% in the judiciary[2]. Rwanda ranks ninth worldwide for World Economic Forum global gender gap index (GGGI).[3] However, gender inequalities continue to persist in areas related to the chemicals and waste management. Regarding private sector participation, women accessing formal finance stands at 63% compared to 74% of men (Finscope, 2016), thus accounting for some of the reasons for women's investment challenges. Women in rural areas of Rwanda are socially, economically, and culturally disadvantaged and have poorer access to resources and information, have poorer representation and less authority than men and are often marginalized in decision-making over household resources and incomes.

These and other findings informed the Gender Action Plan (Annex 9) for this project, which aims to achieve an equitable distribution of its benefits and resources, thus addressing the different vulnerabilities and needs of women and men in the context of chemicals and waste management. This includes close collaboration with stakeholders working on gender equality and women's empowerment and raising awareness, particularly among private sector representatives, on the importance and benefits of women's inclusion in the labour market for enterprises, households, and communities as a whole, accompanied by guidance on how to achieve this. The project also aims to bring about transformative changes in norms, cultural values, and the roots of gender inequality and discrimination, for example, by integrating gender issues and opportunities into capacity building and knowledge management activities, and by focusing on gender-sensitive recruitment processes. Assessments, evaluations, and monitoring of project activities will also include sex-disaggregated indicators to ensure gender-related feedback and course correction where necessary. The Gender Action Plan proposed for the project is in line with the national efforts in mainstreaming gender, as outlined by the Gender Monitoring Office and the project's results framework and logical framework include gender-sensitive indicators.

The project plans to include gender-sensitive measures to close gender gaps and promote gender equality and women's empowerment, including improvements related to women's participation in decision-making, access to resources and economic empowerment. This will be facilitated by involvement and representation of women in project implementation and management structures, providing specific training on gender mainstreaming, developing gender-sensitive awareness raising material, and appointing a gender specialist, among other interventions.

[1] Parliament Administrative Data, 2018

[2] GMO, 2019. The State of Gender Equality in Rwanda. From transition to transformation. (http://gmo.gov.rw/fileadmin/user_upload/Researches%20and%20Assessments/State%20of%20Gender%20Equality%20in%20Rwanda.pdf).

[3] (WEF, 2020).

Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment?

Yes

Closing gender gaps in access to and control over natural resources; Yes

Improving women's participation and decision making Yes

Generating socio-economic benefits or services or women Yes

Does the project's results framework or logical framework include gender-sensitive indicators?

Yes

4. Private sector engagement

Elaborate on the private sector's engagement in the project, if any.

The project is predominantly building on and enhancing private sector initiatives. The project will work with private sector entities from various priority sectors, including but not limited to the: electrical power sector; waste generators (such as tea industry, paint industry, textile industry, automotive industry, pharmacies, food and beverage industry, construction sector, beauty industry, cosmetic industry, solar product companies, telecommunication companies, and healthcare sector); and municipal and hazardous waste collection, management, recycling and disposal enterprises (such as Enviroserve Rwanda Green Park, CIMERWA, D?p?t Kalisimbi Ltd, AgroPlast, and others).

As mentioned in Part II, Section 2 ?The baseline scenario and any associated baseline projects?, there is a significant number of private sector initiatives/activities, which the project will support.

As part of Component 1 (Establishment of an enabling policy/regulatory framework to create (financial) incentives for the sound management of chemicals, the introduction of safer alternatives, minimization of hazardous waste generation and its environmentally safe treatment), private sector entities will be engaged and consulted during the development and review of new/revised chemicals and waste related policies/regulations, industry incentives, and Extended Producer Responsibility (EPR) framework, which will have an impact on their operations and/or might create future opportunities.

As part of Component 2 (Minimize hazardous waste generation through the introduction of safer alternatives and cleaner (production) processes in selected industries and priority sectors), the project will engage with the private sector to conduct a detailed hazardous waste inventory and develop a web-based hazardous waste monitoring tool that will enable both private and public sector entities to record and track their waste generation.

Furthermore, this project component will work with industry and private sector entities in priority sectors in introducing cleaner production practices, which will include the phase-out of harmful substances/products and the assessment/selection and introduction of safer alternatives, improved stock management (to avoid the generation of obsolete chemicals and pharmaceuticals), waste segregation at source, and a reduction in hazardous releases and hazardous waste generation.

As part of Component 3 (Improve private sector and institutional capacity for the sound environmental treatment and disposal of hazardous waste streams), the project will engage with the private sector on the phase-out/replacement of PCB-containing/contaminated electrical equipment (electrical power sector, banks, hotels) and work with the international and national private sector on the removal and disposal/treatment of PCB wastes and potentially the bio-remediation of one PCB-contaminated REG maintenance site. Furthermore, the project will work with the international and national private sector on the removal, packaging, and disposal of obsolete POPs and non-POPs pesticides. The project will also work with the national private sector (e.g. Enviroserve, CIMERWA, DPMM Kalisimbi/Depot Kalisimbi Ltd) on the collection and disposal of PBDE-containing plastic.

Component 3 will also work with research institutes, universities, and private sector partners on assessing the potential for, and introducing, valorization of priority (hazardous) waste streams that if proven viable can be taken up by the private sector. In addition the project will work with these

partners on identifying, assessing, and introducing locally suitable disposal/treatment solutions for hazardous waste streams that the country is currently unable to handle/treat (e.g. new POPs, lead batteries, Hg-containing products). Furthermore, the project will work with existing waste recycling/treatment facilities to improve their environmental performance and support these private sector led initiatives in further enhancing and increasing their capacity (better service provision, less environmental releases, higher treatment capacity and diversification in hazardous waste streams treated).

Finally, Component 4 (Raise awareness to support behavioral change, capture and disseminate experiences, lessons-learned and best practices) will work with private sector waste generators, collectors, and waste treatment facilities on raising the awareness on how to introduce safer alternatives and better, cleaner, and safer practices/processes, improve waste segregation, and make use of economic incentives to turn waste collection and treatment into viable business opportunities.

5. Risks to Achieving Project Objectives

Elaborate on indicated risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, the proposed measures that address these risks at the time of project implementation.(table format acceptable):

The table below lists the main risks identified for the project, as well as the key risk management measures that will be required to mitigate the identified risks throughout the project.

In addition to a risk assessment, the SESP was updated during the PPG phase and can be found in Annex 4 of the ProDoc. The risks identified by the SESP are also reflected in the risk table below. As the SESP identified the project as a substantial risk project, an ESMF was also developed (see Annex 8 of the ProDoc).

Prior to the commencement of any of the selected pilots, a site-specific environmental and social impact assessment (ESIA) will be conducted in accordance with UNDP's SES policy and the UNDP SES Guidance Note on Assessment and Management. This applies to the following:

- ? Safely handle and dispose of Hg-containing products (Activity 3.1.2)
- ? Safely handle and dispose of PBDE-containing plastics (Activity 3.1.3)
- ? Safely handle and dispose of remaining PCB-containing equipment and oil (Activity 4.1.1)
- ? Remediate one PCB-contaminated site (Activity 4.2.1)
- ? Safely handle and dispose of stockpiled obsolete POPs and non-POPs pesticides (Activity 4.3.1)

Pilot demonstrations that have not yet been designed will incorporate SES criteria during the design process including assessment of sites for these activities. A list of exclusion criteria will be used to eliminate high risk sites. These will include sites with high cultural heritage value, inhabited sites, sites with high biodiversity values (such as protected areas) or sites used by indigenous peoples. This applies to the following activities:

- ? Design and undertake demonstration pilots to avoid/reduce the generation of (hazardous) waste and releases through the introduction of cleaner production practices and safer alternatives (Activity 3.1.1)
- ? Design and undertake demonstration pilots to valorise priority waste streams (Activity 5.1.1)
- ? Design and undertake demonstration pilots to enhance national hazardous waste treatment capacity and environmental performance (Activity 5.2.1)

? Assess and improve capacity of existing hazardous waste interim storage facilities (Activity 5.3.1)

Upon definition of each demonstration pilot, all sites and activities will be individually screened with the SESP template, in order to determine the level of assessment and management measures required. The pilots should not commence prior to this process and until the assessment has been conducted and the identified management measures are in place.

#	Description	Risk Treatment / Management Measures
1	Difficulties in obtaining the data/information required to develop a detailed Hazardous Waste Inventory and populate the web-based hazardous waste monitoring tool	The project will ensure during its implementation to fully engage all stakeholders and to raise adequate awareness on the importance of the inventory, the monitoring of waste generation rates as well as the ultimate objectives of the inventory to keep workers, the population and the environment safe.
2	Authorities, civil servants, private sector, and other stakeholders may lack the knowledge and skills necessary for the environmentally sound management of chemicals	An awareness raising plan and training/capacity building plan will be developed and implemented for national authorities, civil servants, private sector, and other stakeholders who are working on aspects related to chemicals and waste management, to ensure that they obtain the necessary knowledge, expertise, and experience to perform their tasks properly.
3	National waste treatment facilities in Rwanda are unable to eliminate priority hazardous waste streams/POPs/Hg-containing wastes in an environmentally-sound manner, or they do not have sufficient capacity to do so	The project will assess installed and operational capacity/technologies in Rwanda and determine if technology changes can be made to existing installations to treat/dispose of hazardous waste streams/POPs/Hg and where not possible the project will export POPs/Hg-containing wastes for sound disposal/treatment.
4	Industries and priority economic sectors are reluctant to replace chemicals of concern/or products containing them with alternative substances	The project will compile and share technical information on feasible substitutes for industrial POPs/Hg-containing products/chemicals of concern (including agro-chemicals) and their application. The project, in partnership with CPCIC/NIRDA, will conduct facility/entity assessments and subsequently train industries and private sector entities on the assessment/selection and introduction of alternatives into existing processes, the optimization of production processes (cleaner production), and familiarize them with the benefits of safer alternatives and cleaner production processes.
5	Environmental, health, and trade authorities do not actively participate in the development and implementation of project activities	A project team as well as a project steering committee will be established and will be made up of representatives from all involved authorities and main stakeholders, in order to regularly share results of the project and to plan for upcoming activities. Meetings will be held with executives from different government organizations to communicate the relevance of their participation in the project. Project partners will benefit from the awareness raising and training/capacity building programmes, which will further increase their project participation, engagement, ownership, and commitment.

6	Private sector partners are reluctant to invest in the management, collection, treatment/disposal of less viable (more complicated) hazardous waste streams	<p>The project will support the drafting/revision and approval of PCB/POPs/Hg laws/regulations; regulations/guidelines on the handling/treatment of priority hazardous waste streams; industry incentives to generate less (hazardous) waste (e.g. PPP) and develop an EPR framework. These regulatory measures will help put in place economic incentives for waste disposal/treatment facilities to enter into the management/disposal/treatment of additional hazardous waste streams.</p> <p>Furthermore, the project will also collaborate with FONERWA, which is interested in providing seed funding to support greening of the private sector. The project and FONERWA, in partnership with CPCIC/NIRDA will provide training on how to develop the necessary documentation in order to be eligible for FONERWA support.</p>
7	Travel to/from Rwanda is limited due to COVID-19 pandemic and hinders the implementation of project activities (e.g. training, meetings, facility visits, assessments). (COVID-19 related risk[1])	<p>If travel restrictions (international, regional and/or national) remain in place due to the ongoing COVID-19 pandemic, remote support will be provided by: (i) conducting training and capacity building activities virtually; (ii) making training modules available via online training options, which will facilitate participation as training will not be limited in time or location; (iii) facilitating online exchanges (using Zoom, Teams, Skype, WhatsApp, email, phone, etc.); (iv) providing face-to-face training and capacity building activities through collaboration between international, regional, and national experts; and (iv) conducting evaluations in partnership with local stakeholders via videos or drones (e.g. Zoom, Teams, Skype, WhatsApp, email, phone, etc.).</p> <p>If face-to-face project activities (e.g. trainings, meetings, field visits) will/can take place, they will take into account international and national COVID-19 guidelines (including but not limited to: social distancing measures, wearing of masks, hand hygiene stations, open-air sites, and before and after deep cleaning).</p>
8	National project partners might be working at a low(er) capacity, resulting in reduced attention/dedication to the project's implementation resulting in a slower implementation rate (COVID-19 related risk)	<p>In order to increase the capacity of national project partners/experts, the project can provide support in the form of providing fast mobile/data allocations, and in certain cases (if deemed critical to project success) enter into agreements to provide (temporarily) computer/conferencing equipment or purchase such equipment that would facilitate virtual work for key stakeholders and personnel. However it is assumed that by the time the project starts implementation a lot of these measures will have already been put in place by national partners themselves.</p>

9	<p>Reduced markets for recyclables, at national, regional and international level making recycling systems less viable and sustainable. (COVID-19 related risk)</p>	<p>Due to COVID-19 many recycling markets came to a halt or significantly reduced because of safety issues related to the segregation of recyclables, closed borders, limited affordable transport, slow processing of customs, etc.</p> <p>This is an important risk, as recycling markets only operate and function when there is a buyers market that offers a price that makes it viable to collect, process (e.g. shred, compact), transport, and export recyclables. Some recyclables, such as printed circuit boards, are exported from Rwanda for processing. In other cases, there is an opportunity to import certain waste to Rwanda for recycling or environmentally sound disposal (such as PET plastic and PBDE-containing plastic, respectively).</p> <p>To mitigate this risk, the project will assess national and regional opportunities for private sector collaboration on recycling and disposal approaches for priority waste streams.</p>
10	<p>A likely reduction in the availability of (co-)financing for waste/chemicals related investments (COVID-19 related risk)</p>	<p>Due to the economic impact of COVID-19, the government might redirect investments from chemicals and waste related infrastructure/systems to reviving the economy, and economic sectors (e.g. tourism, agriculture, industry) might be less likely to want to invest in going green, shipping companies might increase their transport fees (impacting the viability of recycling schemes), etc.</p> <p>This is a risk that is challenging for the project to address as most economic activities have been severely impacted by the COVID-19 pandemic and will require time to rebound. It is expected that government and private sector companies, when they have the means, will use stimulus packages for particular (if not all) economic sectors to keep them operational and allow employees to earn a salary.</p> <p>This might mean that the government and private sector partners are less likely to invest in waste and chemicals related priorities, greener practices, including infrastructure, and that co-financing allocations (especially investment mobilized) might be lower than committed.</p> <p>To mitigate the impact of this risk, the project will design and develop economic instruments, such as a Polluter-Pays-Principle system, best performer awards programme, EPR framework, and other incentives; design and undertake demonstration pilots to avoid/reduce the generation of (hazardous) waste and releases through the introduction of cleaner production practices and safer alternatives; and design and undertake demonstration pilots to valorise priority waste streams.</p> <p>Such instruments and initiatives are intended to stimulate private sector involvement, and thus job creation, in the waste and recycling sector. It is expected that the government and private sector partners will be supportive of such incentives, which provide sustainable financial means to operate waste and recycling systems and create and sustain jobs in the process.</p>

11	<p>SESP Risk 1: Duty bearers, such as customs officials, enforcement officers and other government officials, may not have the capacity to meet their obligations in the Project</p> <p>Related to:</p> <ul style="list-style-type: none"> ? Human Rights; P.2 ? Accountability; P.14 	<p>Customs Service Department officers and other government officials might not be adequately trained on their duties and responsibilities and may not be able to perform their functions properly and misinterpret new legislation implementing them improperly.</p> <p>The project was designed to provide targeted training to customs officials and will address the needs of the participants (Activity 1.6.1) and training for various other stakeholders engaged who will be engaged in the various components. Training needs assessment will be undertaken (guided by the SES, as noted in the ProDoc), and a post-training assessment will be conducted to ensure that the information has been delivered to the participants as required and will have a meaningful impact on their job performance. In line with the Environmental and Social Management Framework (ESMF) that has been prepared for the Project, additional capacity building will be done as needed per the ESMPs.</p>
12	<p>Risk 2: Risk to enterprise viability and worker employment, in the course of the transition to alternatives to new POPs and mercury-containing products and during the implementation of the Polluter-Pays-Principle system</p> <p>Related to:</p> <ul style="list-style-type: none"> ? Human Rights; P.5 ? Accountability; P.13, P.14 ? Standard 7: Labour and Working Conditions; 7.1, 7.5 	<p>Some enterprises, especially those with limited resources, may not be able to provide alternatives to banned new POPs and Hg-containing products or abide by standards in line with the Polluter-Pays-Principle system.</p> <p>As in the ESMF prepared for the Project (Annex 8 of the ProDoc), upstream activities such as ban on the import of new POPs and mercury-containing products (Activity 1.2.1) or applying a Polluter-Pays-Principle System (Activity 1.4.1) that may have environmental or social implications will each undergo a participatory Strategic Environmental and Social Assessment (SESA). This will ensure that economic impacts on small and medium sized enterprises and their workers are taken into consideration in the decision-making process while developing the legislative tools. In addition, the Stakeholder Engagement Plan (Annex 7 of the ProDoc) will ensure participation of affected stakeholders during these activities.</p>
13	<p>SESP Risk 3: Marginalized population relying on their income as informal waste-pickers, who are predominantly women, will have found their waste resources reduced</p> <p>Related to:</p> <ul style="list-style-type: none"> ? Human Rights; P.5 ? Gender Equality and Women Empowerment; P.9 ? Accountability; P.13, P.14 ? Standard 5: Displacement and Resettlement; 5.2 	<p>The project will promote more organized recycling of waste through the waste valorisation pilots and this may result in certain cases in shifts from informal to formal waste management activities. There is thus a risk that marginalized population groups, predominantly women, relying on their income as waste-pickers, will have found their waste resources reduced.</p> <p>In line with the ESMF, an Environmental and Social Impact Assessment (ESIA) will be carried out and an Environmental and Social Management Plan (ESMP) developed at prior to implementation of the PET waste valorization pilot (Activity 5.1.1), while additional waste valorization pilots will be subject to a SESP to determine the level of assessment/management required. The resulting ESMP will include a Livelihoods Restoration Plan to address this risk if it was found to be significant.</p>

14	<p>SESP Risk 4: Affected stakeholders and marginalized groups may have grievances regarding selected contaminated site for remediation and companies involved in waste valorization or hazardous waste treatment</p> <p>Related to: ? Accountability; P.13</p>	<p>Some communities living near contaminated sites, existing disposal/treatment sites and industries treating hazardous waste may have concerns about the project.</p> <p>As mentioned in the ESMF, the remediation activity for PCB contaminated site (Activity 4.2.1) and waste valorization pilots (Activity 5.1.1) will undergo an ESIA each to assess the various potential impacts on stakeholders surrounding communities who will be closely involved and engaged through implementation of the ESMP. The plan will ensure effective engagement between various stakeholders by creating and disseminating information, fostering cooperation, and enhancing capacities. Stakeholders identified include representatives from central and local government, private sector, NGOs and civil society, academia and research institutions, vulnerable population groups and the general public. This will be done in line with the Stakeholder Engagement Plan that has been prepared for the Project. The project will also put in place a project-level Grievance Redress Mechanism (GRM) to provide meaningful means for local communities and affected populations to raise concerns and/or grievances when activities may adversely impact them.</p>
15	<p>SESP Risk 5: The project could reproduce existing discriminations against women through excluding them from decision-making on project activities, benefiting from project outputs and capacity building initiatives.</p> <p>Related to: ? Gender Equality and Women Empowerment; P.10</p>	<p>The Gender Analysis conducted found that there is an access gap in investments and entrepreneurship skills between men and women for medical waste disposal and incineration business. It also found that even though formalization of waste management increased community safety and stopped informal waste pickers, formal waste collection efforts excluded women from benefits that include wages and financial gain from the reuse of plastic containers and textiles. A Gender Action Plan (Annex 9 of the ProDoc) has been prepared to mitigate the identified risk and propose measures that ensure that women are represented in decision-making on project activities and are included in capacity building activities. Proposed strategies to mainstream gender in hazardous waste management include an enabling policy environment, awareness raising and education, gender equity in the access to opportunities, and data collection and research. This will be further assessed in the SESAs and ESIAs/ESMPs that will be undertaken during project implementation as described in the ESMF.</p>

16	<p>SESP Risk 6: Accidental release of PCBs, POPs pesticides, HHPs or mercury into the environment due to improper handling, storage, transport and treatment/disposal of these chemicals and exposing the workers as well as the local communities living nearby.</p> <p>Related to:</p> <ul style="list-style-type: none"> ? Standard 1: Biodiversity Conservation and Natural Resource Management; 1.1, 1.2, 1.7, 1.14 ? Standard 3: Community Health, Safety and Security; 3.2, 3.5 ? Standard 7: Labour and Working Conditions; 7.6 ? Standard 8: Pollution Prevention and Resource Efficiency; 8.1, 8.2 	<p>Accidental releases of chemicals into the environmental would have a severe impact but are unlikely to occur in high amounts.</p> <p>In line with the ESMF that has been prepared for the project, an ESIA will be conducted for identified pilot demonstrations and disposal activities (handling and disposal of Hg-containing products (Activity 3.1.2), PBDE-containing plastics (Activity 3.1.3) and PCB-containing equipment and oil (Activity 4.1.1), remediation of the PCB-contaminated site (Activity 4.2.1) and handling and disposal of stockpiled obsolete POPs and non-POPs pesticides (Activity 4.3.1)) and will identify environmentally sensitive receptors that may be affected by accidental releases such that mitigation measures will be developed and included in the ESMP through a Spill Prevention and Management Plan. This plan will describe how the project will handle, transport and store hazardous material in accordance with IFC Health and Safety Guidelines.</p>
17	<p>SESP Risk 7: Contamination or damage to sites of cultural heritage, biodiversity or socioeconomic value to the local community from pilot demonstrations</p> <p>Related to:</p> <ul style="list-style-type: none"> ? Standard 1: Biodiversity Conservation and Natural Resource Management; 1.1, 1.2, 1.3, 1.7, 1.14 ? Standard 3: Community Health, Safety and Security; 3.1, 3.2, 3.5, 3.6, 3.7 ? Standard 4: Cultural Heritage; 4.1, 4.2 ? Standard 5: Resettlement and Displacement; 5.1, 5.2 ? Standard 6: Indigenous Peoples; 6.1, 6.2, 6.3, 6.6 ? Standard 8: Pollution Prevention and Resources Efficiency; 8.1, 8.2, 8.3, 8.4, 8.6 	<p>The impact and likelihood of this risk can be better determined once the pilot sites and activities have been selected.</p> <p>Pilot demonstrations that have not yet been selected (pilot interventions to avoid/reduce the generation of (hazardous) waste and releases through the introduction of cleaner production and safer alternatives (Activity 3.1.1), waste valorization pilots (Activity 5.1.1) and demonstration pilots to enhance national hazardous waste treatment capacity, environmental performance (Activity 5.2.1) and upgrade/expansion of existing interim storage facility infrastructure (Activity 5.3.1)) will incorporate SES criteria during the selection process including assessment of sites of these activities. A list of exclusion criteria will be prepared to eliminate high risk sites. These will include sites with high cultural heritage value, inhabited sites, sites with high biodiversity values (such as protected areas) or sites used by indigenous peoples. Once defined, the pilots will undergo a SESP to determine the level of assessment/management needed.</p>

18	<p>SESP Risk 8: Adopted legislation, guidelines, strategies and plans may lead to practices that could result in accidental release of PCBs, POPs pesticides, HHPs or mercury into the environment due to improper handling, storage, transport and treatment/disposal of these chemicals and exposing the workers as well as the local communities living nearby.</p> <p>Related to:</p> <ul style="list-style-type: none"> ? Standard 1: Biodiversity Conservation and Natural Resource Management; 1.1, 1.2, 1.3, 1.7, 1.14 ? Standard 3: Community Health, Safety and Security; 3.2, 3.5 ? Standard 7: Labour and Working Conditions; 7.6 ? Standard 8: Pollution Prevention and Resource Efficiency; 8.1, 8.2 	<p>This risk is not a direct result of project activities but may result from legal and policy instruments proposed by the project.</p> <p>In line with the ESMF, a SESA will be prepared during review of the PCB Law (Activity 1.1.1), drafting of regulatory texts and guidelines for new POPs and Hg and their hazardous waste streams (Activities 1.2.1 and 1.3.1), developing the EPR framework (Activity 1.5.1) and the national strategies for Hg (Activity 3.1.2). The SESA will consider the risk of accidental release of chemicals and worker exposure that may result from implementing the legislation and strategies at the national level and incorporate measures to mitigation them.</p>
19	<p>SESP Risk 9: Disruption to wetland where PCB-contaminated site will be remediated</p> <p>Related to:</p> <ul style="list-style-type: none"> ? Standard 1: Biodiversity Conservation and Natural Resource Management; 1.1, 1.2, 1.3, 1.4, 1.6, 1.11 	<p>Remediation of PCB-contaminated site will test bioremediation measures that may introduce alien invasive species to the wetland if the species is not properly selected. Activity 4.2.1 will undergo a site-specific ESIA and an ESMP will be developed to ensure that this risk is avoided or mitigated.</p>
20	<p>SESP Risk 10: Flooding of interim storage and waste treatment/disposal facilities for hazardous waste used during the demonstration activities</p> <p>Related to:</p> <ul style="list-style-type: none"> ? Standard 2: Climate Change and Disaster Risks; 2.1, 2.2 ? Standard 3: Community Health, Safety and Security; 3.3 	<p>Sensitivity and sustainability of the project may be affected by the occurrence of natural disasters due to landslides, erosion, floods or extreme weather conditions or greater vulnerability thereto.</p> <p>As part of the selection process for the demonstration pilots, considerations will be made that waste treatment (Activity 5.2.1) and interim storage facilities (Activity 5.3.1) to be used are not located in areas classified as high risk due to landslides, erosion, floods or extreme weather conditions. Once pilot demonstrations are selected, a SESP will be undertaken to determine the extent of the assessment/management needed.</p>

21	<p>SESP Risk 11: The project's demonstrative interventions for the elimination of PCBs may result in the increase of (or no reduction of) CO2 emissions or other air emissions due to current technologies for incineration treatment/destruction of PCBs.</p> <p>Related to:</p> <ul style="list-style-type: none"> ? Standard 2: Climate Change and Disaster Risks; 2.4 ? Standard 3: Community Health, Safety and Security; 3.2 	<p>It is estimated that 122 tons of PCB oil will need to be disposed of as part of the project activities. The disposal method will be through co-incineration (of PCB under 1,000 ppm) at a local private enterprise (cement kiln) as has been done in the past under a previous GEF project. Otherwise, it will be exported. As part of the ESIA that will be prepared for the project, technologies that be used for PCB treatment/elimination (Activity 4.1.1) will be evaluated in terms of their CO2 emissions and potential chemical release, options compared and measures proposed to minimize CO2 emissions and chemicals produced such that the alternative technologies must ensure compliance with "Best Available Techniques" (BAT) and "Best Environmental Practices" (BEP) practices as per the Stockholm and Basel Conventions. This will build on the burning test of PCB contaminated oil undertaken at CIMERWA in 2017 as part of the GEF-4 PCB project.</p>
22	<p>SESP Risk 12: As the project will lead to employment opportunities in hazardous conditions, risk exists of child labor, which is prevalent in the target country, as well as other practices in contravention to principles and standards of ILO fundamental conventions.</p> <p>Related to:</p> <ul style="list-style-type: none"> ? Standard 7: Labour and Working Conditions; 7.1, 7.2, 7.3, 7.4, and 7.5 	<p>During selection of the enterprises to be engaged in the demonstrations and disposal activities, and as part of the private sector risk assessment that will be undertaken, the project will ensure that an Occupational Health and Safety Plan; Labour Assessment and Management Plan; and/or any other plan required for SES compliance is in place prior to commencement of the works.</p> <p>The interim storage (Activity 5.3.1) and waste treatment facilities (Activity 5.2.1) that will be used by the project will be subject to a visit to ensure compliance with international best practice.</p>
23	<p>SESP Risk 13: The project may pose risks to occupational health and safety due to exposure to harmful chemicals during site remediation, transport and interim storage of chemicals and their treatment/final disposal. Workers may also be exposed to risk of accidents and physical injuries on the job.</p> <p>Related to:</p> <ul style="list-style-type: none"> ? Standard 7: Labour and Working Conditions; 7.6 	<p>As mentioned earlier, the ESIA's that will be undertaken for each selected pilot, will take into consideration occupational health and safety measures to ensure they are in line with best practices such that adequate measures are included in the pursuant ESMPs. Pilots that have not been selected will undergo a SESP to determine the level of assessment/management</p> <p>During selection of the enterprises to be engaged in the demonstrations and disposal activities, and as part of the private sector risk assessment that will be undertaken, the project will ensure that an Occupational Health and Safety Plan; Labour Assessment and Management Plan; and/or any other plan required for SES compliance is in place prior to commencement of the works. This includes a visit to interim storage (Activity 5.3.1) and waste treatment (Activity 5.2.1) facilities that will be used by the project.</p>

[1] At the start of the project's implementation, in close coordination with the national partners, including, if already on-board, the national project team, REMA and UNDP will do a quick risk assessment to assess the impact of COVID-19 on the project and how the pandemic will impact project implementation. Subsequently recommendations will be proposed on how to mitigate those risks or reduce their impact.

6. Institutional Arrangement and Coordination

Describe the institutional arrangement for project implementation. Elaborate on the planned coordination with other relevant GEF-financed projects and other initiatives.

Roles and responsibilities of the project's governance mechanism:

Implementing Partner: The Implementing Partner for this project is Rwanda Environment Management Authority (REMA).

The Implementing Partner is the entity to which the UNDP Administrator has entrusted the implementation of UNDP assistance specified in this signed project document along with the assumption of full responsibility and accountability for the effective use of UNDP resources and the delivery of outputs, as set forth in this document.

The Implementing Partner is responsible for executing this project. Specific tasks include:

- ? Project planning, coordination, management, monitoring, evaluation and reporting. This includes providing all required information and data necessary for timely, comprehensive and evidence-based project reporting, including results and financial data, as necessary. The Implementing Partner will strive to ensure project-level M&E is undertaken by national institutes and is aligned with national systems so that the data used and generated by the project supports national systems.
- ? Risk management as outlined in this Project Document;
- ? Procurement of goods and services, including human resources;
- ? Financial management, including overseeing financial expenditures against project budgets;
- ? Approving and signing the multiyear workplan;
- ? Approving and signing the combined delivery report at the end of the year; and,
- ? Signing the financial report or the funding authorization and certificate of expenditures.

Project stakeholders and target groups: The project target groups and their representatives will be invited to participate in the project kick-off workshop at the beginning of the project. The kick-off workshop is an opportunity for the project's target groups to provide additional comments on the project design and planning and to propose changes (if necessary).

The project will also develop an online national waste management platform with a view to providing a one-stop shop solution that connects all actors in the waste management value chain to promote waste recovery in a larger circular economy context. This will support industrial symbiosis and provide an online market for recycled products to help other initiatives be more viable/scale-up. The platform will be led/hosted by REMA and will also: (i) ensure coordination between all projects/initiatives/stakeholders related to chemicals and hazardous wastes in order to promote collaboration and avoid duplication; (ii) support the development of national partnerships on the management of recyclable materials, and (hazardous) chemicals and wastes; and (iii) provide an outlet to advise the government on any issues related to chemical/(hazardous) wastes, among others.

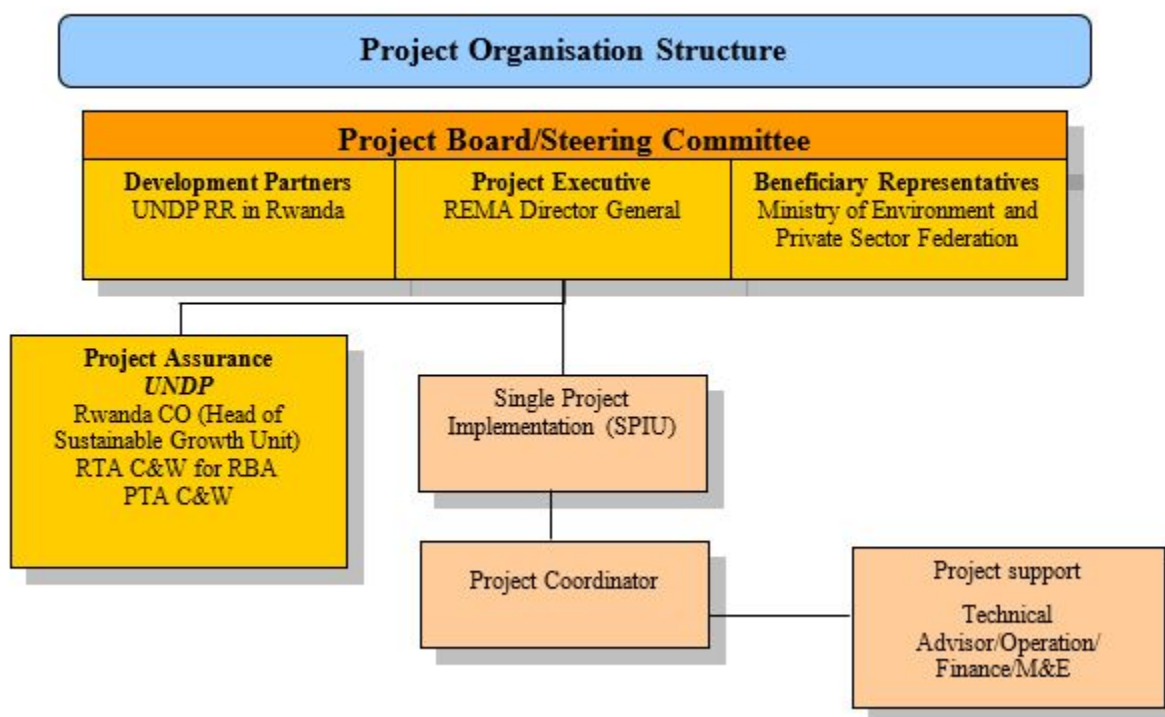
The national waste management platform will include representation by the public, private, and NGO sectors. The project will support the national waste management platform so that there will be meaningful exchanges between the different public, private, and NGO actors to promote collaboration and avoid duplication. The establishment of the platform and regular meetings between stakeholders will also provide an opportunity for stakeholders to reflect on the progress of the project and propose improvements to its implementation.

Finally, the annual project board meetings are another opportunity for the project's target groups to participate in project decision-making and to propose improvements to project implementation.

UNDP: UNDP is accountable to the GEF for the implementation of this project. This includes oversight of project execution to ensure that the project is being carried out in accordance with agreed standards and provisions. UNDP is responsible for delivering GEF project cycle management services comprising project approval and start-up, project supervision and oversight, and project completion and evaluation. UNDP is also responsible for the Project Assurance role of the Project Board/Steering Committee.

Project organisation structure:

Project organisation structure:



The Project Board (also called Project Steering Committee) is responsible for taking corrective action as needed to ensure the project achieves the desired results. 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 money, fairness, integrity, transparency and effective international competition.

In case consensus cannot be reached within the Board, the UNDP Resident Representative (or their designate) will mediate to find consensus and, if this cannot be found, will take the final decision to ensure project implementation is not unduly delayed.

Specific responsibilities of the Project Board/Steering Committee include:

- ? Provide overall guidance and direction to the project, ensuring it remains within any specified constraints;
- ? Address project issues as raised by the project manager;
- ? Provide guidance on new project risks, and agree on possible mitigation and management actions to address specific risks;
- ? Agree on project manager's tolerances as required, within the parameters set by UNDP-GEF, and provide direction and advice for exceptional situations when the project manager's tolerances are exceeded;
- ? Advise on major and minor amendments to the project within the parameters set by UNDP-GEF;
- ? Ensure coordination between various donor and government-funded projects and programmes;
- ? Ensure coordination with various government agencies and their participation in project activities;
- ? Track and monitor co-financing for this project;
- ? Review the project progress, assess performance, and appraise the Annual Work Plan for the following year;
- ? Appraise the annual project implementation report, including the quality assessment rating report;
- ? Ensure commitment of human resources to support project implementation, arbitrating any issues within the project;
- ? Review combined delivery reports prior to certification by the implementing partner;
- ? Provide direction and recommendations to ensure that the agreed deliverables are produced satisfactorily according to plans;
- ? Address project-level grievances;
- ? Approve the project Inception Report, Mid-term Review and Terminal Evaluation reports and corresponding management responses;
- ? Review the final project report package during an end-of-project review meeting to discuss lesson learned and opportunities for scaling up.
- ? Ensure highest levels of transparency and take all measures to avoid any real or perceived conflicts of interest.

The composition of the Project Board must include the following roles:

a. Project Executive: Is an individual who represents ownership of the project and chairs the Project Board. The Executive is normally the national counterpart for nationally implemented projects. The Project Executive is: *REMA Director*

b. Beneficiary Representative(s): Individuals or groups representing the interests of those who will ultimately benefit from the project. Their primary function within the board is to ensure the realization of project results from the perspective of project beneficiaries. Often civil society representative(s) can fulfil this role. The Beneficiary representative (s) is/are: *Ministry of Environment and Private Sector Federation*

c. Development Partner(s): Individuals or groups representing the interests of the parties concerned that provide funding and/or technical expertise to the project. The Development Partner(s) is: *Maxwell Gomera, UNDP Resident Representative in Rwanda*

d. Project Assurance: UNDP performs the quality assurance and supports the Project Board and Project Management Unit by carrying out objective and independent project oversight and monitoring functions. This role ensures appropriate project management milestones are managed and completed and conflict of interest issues are monitored and addressed. The Project Board cannot delegate any of its quality assurance responsibilities to the Project Manager. UNDP provides a three ? tier oversight services involving the UNDP Country Offices and UNDP at regional and headquarters levels. Project assurance is totally independent of the project execution function.

e. *National Technical Advisory Committee*: This is a technical team made of experts from various institutions that can meet on regular basis to review technical documents before they are submitted to the project's steering committee for approval.

Project extensions: The UNDP Resident Representative and UNDP-GEF Executive Coordinator must approve all project extension requests. Note that all extensions incur costs and the GEF project budget cannot be increased. A single extension may be granted on an exceptional basis and only if the following conditions are met: one extension only for a project for a maximum of six months; the project management costs during the extension period must remain within the originally approved amount, and any increase in PMC costs will be covered by non-GEF resources; the UNDP Country Office oversight costs in excess of the CO's Agency fee specified in the DOA during the extension period must be covered by non-GEF resources.

7. Consistency with National Priorities

Describe the consistency of the project with national strategies and plans or reports and assessments under relevant conventions from below:

NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc.

The project is consistent with the National Implementation Plan (NIP) under the Stockholm Convention. In 2016, the Government of the Republic of Rwanda and the Rwanda Environment Management Authority (REMA) completed the updated NIP, which identified the following priorities for POPs management:

? ?Old? POPs:

- o Conduct yearly national inventory of pesticides used in the agriculture sector, obsolete pesticides included
- o Evaluation and Popularization of Alternatives to POPs pesticides adapted to the local context
- o Stockpiles of obsolete pesticides assembled and secured; and evacuated for elimination
- o Availability of database of identified contaminated sites by Pesticides
- o Security of identified contaminated sites by pesticides and sensitization of the surrounding communities
- o Rehabilitation of identified contaminated sites containing POPs pesticides and obsolete pesticides
- o Institutional arrangements and Inter-Sectoral Collaboration for better monitoring of pesticides management

? ?New? POPs:

- o Establishment of a data acquisition system that should avail reliable data timely.
- o Lack of understanding and knowledge on ?New? POPs
- o Management and disposal of POPs-contaminated articles (?New? POPs-containing wastes)
- o Monitoring and surveillance of health status relevant to potential impacts of ?New? POPs.
- o Identification of contaminated sites;
- o Setup mechanisms to reduce and control the release of uPOPs
- o Strengthening of the current regulatory and institutions framework
- o Establishment of guidelines for ?New? POPs wastes management, including the reuse and recycling
- o Publication of research data of ?New? POPs to increase the public awareness

The analysis of the above priorities led to the formulation of country actions plans for the updated NIP that were divided into three categories: (i) common action plans for both old and new POPS; (ii) action plans specific to old POPs; and (iii) action plans specific to new POPs. The proposed project will directly and indirectly support all the actions plans taken up in the NIP update.

The project is also consistent with the preliminary work that has been undertaken leading up to the Minamata Initial Assessment (MIA) and National Action Plan on Mercury in the Artisanal and Small-Scale Gold Mining Sector (NAP) enabling activities that are currently underway. For example, the project will support the following six of the seven priority activities, outlined in the 2018 National Survey of Mercury

and Mercury Compounds, to reduce Hg releases in the country and as an initial step in meeting Minamata Convention obligations: (i) To assess national capacity to implement the Minamata Convention through policy analysis, institutional capacity strengthening and to conduct in depth countrywide Hg and Hg compounds inventory; (ii) To improve the policy and regulatory framework governing the management of hazardous waste and Hg and Hg compounds specifically; (iii) To undertake awareness raising among priority groups and built capacity through training on Hg management; (iv) To improve waste management practices for Hg and Hg-containing wastes; (v) To phase-down and to phase-out the use of Hg and Hg-added products; and (vi) To control and reduce emissions of Hg and Hg compounds to the atmosphere from waste incineration facilities; smelting and roasting processes used in the recycling of metals and cement production plant.

8. Knowledge Management

Elaborate the "Knowledge Management Approach" for the project, including a budget, key deliverables and a timeline, and explain how it will contribute to the project's overall impact.

The knowledge management approach of the project will consist of the following activities:

? A Knowledge Management Strategy in support of the implementation of Project Component 4 *?Raise awareness to support behavioral change, capture and disseminate experiences, lessons-learned and best practices?* will be developed. The Strategy will predominantly focus on how to change behaviours (and operations) of waste generators. The strategy will focus on how to learn from relevant projects, initiatives and evaluations, which include the GEF/UNDP project on the *?Management of PCBs stockpiles and equipment containing PCBs?*, the *establishment of the GoR/FONERWA/Enviroserve e-waste recycling facility*, and Stockholm and Minamata Enabling Activities (*NIP, capacity for NIP implementation, NIP update and MIA/NAP development*).

? Annually, the project will prepare a report which will summarize the progress of each of the project's activities, achievements, difficulties, lessons learned, risk management and contribution to the SDGs. This will be part of the PIR process.

? As part of the process to conduct the detailed hazardous waste inventory to obtain insights in the types, volumes, and locations of hazardous waste generation in Rwanda, the project will also design and implement a web-based hazardous waste monitoring tool for waste generators to enable and ensure waste tracking. This on-line system will enable companies to monitor and track their waste generation while at the same time it will enable REMA to monitor progress and compliance of waste generators. The web-based system will ensure that knowledge and data on hazardous waste generation will remain available and be used long after the project comes to an end.

? The project will draft and publish a guidance document that will describe how to identify products and wastes containing industrial POPs, Hg, and other chemicals of concern, feasible alternatives for their substitution and how to dispose/treat wastes containing industrial POPs/Hg/chemicals of concern within the Rwandan setting, and the treatment options available.

? A specific guidance document (aimed at awareness raising/entry-point training) will be developed for Customs officers and other enforcement officers in charge of environment regulations, focusing on POPs and Hg-containing wastes and products.

? Each year the project will organize a seminar to present the results of the project, to which national and international experts will be invited to speak on topics of interest to the project and its stakeholders.

? National research centers will participate in the development of some project activities, such as the University of Rwanda and CPCIC/NIRDA, as well as other Rwandan research institutions. These institutions will disseminate acquired knowledge to the scientific community and other stakeholders.

? Electrical power companies, banks, hotels, industry, healthcare facilities, agro-businesses, waste generators, municipal and hazardous waste collection, management, recycling and disposal enterprises, research institutions, and other sectors/industries will be both project beneficiaries as well as project co-financers. They will be the direct recipients of the knowledge generated throughout the project and will support the dissemination of this knowledge throughout their organizations.

? At the end of the project, a document capturing all lessons-learned during the project's implementation will be published.

9. Monitoring and Evaluation

Describe the budgeted M and E plan

The project results, corresponding indicators and mid-term and end-of-project targets in the project results framework will be monitored annually and evaluated periodically during project implementation. If baseline data for some of the results indicators is not yet available, it will be collected during the first year of project implementation. The Monitoring Plan included in Annex details the roles, responsibilities, and frequency of monitoring project results.

Project-level monitoring and evaluation will be undertaken in compliance with UNDP requirements as outlined in the [UNDP POPP](#) and [UNDP Evaluation Policy](#). The UNDP Country Office is responsible for ensuring full compliance with all UNDP project monitoring, quality assurance, risk management, and evaluation requirements.

Additional mandatory GEF-specific M&E requirements will be undertaken in accordance with the [GEF Monitoring Policy](#) and the [GEF Evaluation Policy](#) and other [relevant GEF policies](#)^[1]. The costed M&E plan included below, and the Monitoring plan in Annex, will guide the GEF-specific M&E activities to be undertaken by this project.

In addition to these mandatory UNDP and GEF M&E requirements, other M&E activities deemed necessary to support project-level adaptive management will be agreed during the Project Inception Workshop and will be detailed in the Inception Report.

For further details, please see Section VI, Monitoring and Evaluation (M&E) Plan, in the UNDP Project Document.

[1] See https://www.thegef.org/gef/policies_guidelines

10. Benefits

Describe the socioeconomic benefits to be delivered by the project at the national and local levels, as appropriate. How do these benefits translate in supporting the achievement of global environment benefits (GEF Trust Fund) or adaptation benefits (LDCF/SCCF)?

The project's objective of this project is to support the Government of Rwanda and its private and public sector in decoupling hazardous waste generation and harmful releases from economic growth by enhancing the introduction of the 4R approach (Reuse, Reduce, Recycle, and Recovery) in priority industries and economic sectors, while at the same time enhancing private sector-led national waste treatment capacity to ensure the sound management of wastes, generate income, create jobs, and protect human health and the environment. The ultimate goal of the project is to protect human health and the environment from the harmful effects of chemicals and hazardous waste.

The project is focused on behavioural and operational change of the government, private sector, and public, developing enabling frameworks, partnerships, financial mechanisms, and BAT/BEP-conforming chemicals and waste management and recycling systems. This will be combined with strengthening the necessary private sector and government capacity to sustainably operate waste and chemicals management systems in the long run, increasing people's awareness and understanding on the importance of chemicals and waste management, including Reuse, Reduce, Recycle, and Recovery, while creating livelihoods and job opportunities.

Socio-economic benefits of the project include:

- ? Reduced health impact from the exposure to hazardous chemicals, including PCBs, PBDEs, uPOPs, Highly Hazardous Pesticides, Hg, new industrial POPs ,and other priority chemicals of concern. The project aims to directly benefit 300,000 people, including 150,000 females and 150,000 males.
- ? Job creation through opportunities created in the area of waste/hazardous waste collection, treatment, recycling, and disposal industry, including but not limited to cleaner production, introduction of safer alternatives, and valorization of waste streams with a focus on supporting the creation of new SMEs, increasing the capacity of existing companies, creating business opportunities through Public Private Partnerships, as well as regional and global partnerships.
- ? A general increase in awareness about the environmental impacts of hazardous waste, including POPs and Hg, as well as gender dimensions related to chemicals.
- ? Improved policy, regulatory, monitoring and analysis frameworks to safeguard human health and the environment.
- ? Improved practices regarding healthcare waste including related Hg-added products.

11. Environmental and Social Safeguard (ESS) Risks

Provide information on the identified environmental and social risks and potential impacts associated with the project/program based on your organization's ESS systems and procedures

Overall Project/Program Risk Classification *

PIF	CEO Endorsement/Approval	MTR	TE
High or Substantial			

Measures to address identified risks and impacts

Elaborate on the types and risk classifications/ratings of any identified environmental and social risks and impacts (considering the GEF ESS Minimum Standards) and any measures undertaken as well as planned management measures to address these risks during implementation.

The project primarily aims to minimize the risk posed by POPs, mercury and other hazardous chemicals to human health and the environment and to promote compliance with the Stockholm and Minamata Conventions. Thirteen potential risks have been identified for this project, nine of which are assessed as moderate and four as substantial. As a result, this project is rated overall as a ?Substantial? Risk project. During the PPG, an ESMF, Stakeholder Engagement Plan and Gender Action Plan have been prepared to meet SES requirements. During project implementation, several SESAs addressing potential environmental and socioeconomic impacts of upstream activities will be performed, and ESIAs along with ESMPs that will include Occupational Health and Safety Plans, Spill Prevention Plans, and any other plans required for SES compliance including potentially a Livelihoods Restoration Plan, will be developed and put in place prior to commencement of the pilot demonstrations and disposal activities. Pilots that have not yet been identified will undergo selection criteria that include SES and once selected, a SESP to determine the level of assessment/management needed. In addition, all private enterprises that will be engaged in the project will undergo a private sector risk assessment in line with UNDP SES requirements.

Supporting Documents

Upload available ESS supporting documents.

Title	Module	Submitted
6482 SESP_ProDoc annex 4_27April2021_cleared	CEO Endorsement ESS	
6482 Rwanda GEF 7 - ESMF_27April2021_clean and cleared	CEO Endorsement ESS	

ANNEX A: PROJECT RESULTS FRAMEWORK (either copy and paste here the framework from the Agency document, or provide reference to the page in the project document where the framework could be found).

Please see Section V, Project Results Framework, page 41, in the UNDP Project Document.

ANNEX B: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF).

#	Question	GEF comment	UNDP response
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1	<p>Is the project structure/design appropriate to achieve the expected outcomes and outputs as in Table B and described in the project document?</p>	<p>Please note that:</p> <ol style="list-style-type: none"> 1. The project needs a theory of change 2. The GEF does not finance contaminated soil. Please provide a clear justification for this if it is to be considered. Additionally, while the use of cement kilns is an option for POPs disposal, it certainly would not be appropriate for soil and the GEF has been discouraging the use of kilns for hazardous waste due to the liability it poses. UNDP also should have extensive knowledge of soil remediation options as they have had pilot projects that looked at contaminated soil in Asia and Central Asia, however there is no evidence in the project that they are applying this knowledge 3. The proposal is vague on the EPR and how it will be set up. Some clarification on this would be needed. 	<ol style="list-style-type: none"> 1. The theory of change has been added to the Section ?3) The proposed alternative scenario with a brief description of expected outcomes and components of the project?. It is drawn from the UNDP Project document as drafted (page 13). 2. The inclusion of GEF financing for treatment of PCB-contaminated soil at the Gikondo Industrial Park transformer site is based on the PIF, which includes the output ?One (1) PCB contaminated site remediated (e.g. transformer maintenance site)?. The PCB-related activities of the project focus on the phase-out/disposal of the remaining PCB-containing equipment in the country (122 MT), which has been inventoried and, in some cases, stockpiled. Since development of the PIF, the transformer maintenance site has been closed and relocated to more environmentally sound facilities, however, suspected PCB-contaminated soil remains. Based on an initial assessment of the situation including past practices at the site, soil properties, and area of likely impact, 250 MT of PCB-contaminated soil has been estimated. <p>The planned activities for the treatment of the PCB-contaminated soil are to: test the soil to determine the level of contamination and finalize the determination of the amount of soil to be treated; develop a contaminated site remediation plan; undertake a tender for service, with an international service provider, which includes the export of the excavated contaminated soil for treatment at an appropriate facility; and further implement the remediation plan with the potential of testing and applying innovative bioremediation measures (e.g. addressing lower-contaminated soil). This will include providing guidance and training to relevant stakeholders, such as REG and waste management enterprises, on all steps, from contaminated site analysis to remediation including excavation, collection, handling, repacking, transportation, cleaning of residual contamination, treatment, storage, and export.</p>
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2	<p>Is the financing presented in Table D adequate and does the project demonstrate a cost-effective approach to meet the project objectives?</p>	<p>Financing presented in table D appears adequate. However, in the project budget table presented in Annex E, there are costs associated with purchase of equipment such as XRF machines to monitor mercury. How will they cover the cost of servicing, replacement parts, etc... in the long term? Another option to explore could be to have a lease agreement for the provision of the devices.</p>	<p>The request for proposals for the purchase of equipment, such as XRF machines to monitor mercury will include after-sales service for the duration of the project. Charging a fee to importers of products that require mercury analysis will also be considered under the project to generate funds for future service of equipment beyond the life of the project. Leasing agreements for the equipment will also be explored and subject to a cost-benefit analysis to determine the best approach.</p>
3	<p>Are there changes/adjustments made in the core indicator targets indicated in Table E? Do they remain realistic?</p>	<p>Please provide information on how the core indicators have been calculated. This is particularly important as it seems the GEB's from this project stem mainly from contaminated soil. Volumes of contaminated material should be reported in sub-indicator 9.6. Sub-indicator 9.1 is only for estimated tons of pure chemicals.</p>	<p>Sub-indicator 9.1 includes:</p> <ul style="list-style-type: none"> - 122 MT of PCBs (oil and contaminated equipment) - 35 MT of PBDEs (from PBDE-contaminated e-waste plastic) - 3 MT of Lindane and Endosulfan (from existing, primarily buried stockpiles) - 44 MT of HHPs (from existing, primarily buried stockpiles) - 1 MT of Hg (from healthcare waste and e-waste) <p>These are estimates of pure chemicals.</p> <p>Sub-indicator 9.6 includes:</p> <ul style="list-style-type: none"> - 35,000 MT of POPs-contaminated plastic from e-waste - 40 MT of plastic and other materials from Hg-containing healthcare waste and e-waste - 250 MT of PCB-contaminated soil from the main transformer maintenance site <p>The 250 MT of PCB-contaminated soil represents a small percentage of the total GEBs, which is 205 MT and 35,290 MT for sub-indicators 9.1 and 9.6 respectively.</p>

4	Is there further elaboration on how the project is aligned with focal area/impact program strategies?	Please elaborate on the potential synergies and complementarity between this project with the World Bank Rwanda Urban Development Project II under the GEF-7 Sustainable Cities Impact Program.	<p>This project will be coordinated with the relevant activities under the World Bank Rwanda Urban Development Project II, in particular its development of a National Integrated Waste Management Strategy, and within that an assessment of the financial sustainability of Rwanda's solid waste management operations and infrastructure, and the development of a Community Awareness Campaign and Separation-at-Source Pilot Initiative. Linkages will be ensured with this project's activities on the development of a web-based hazardous waste inventory and database; avoiding/reducing the generation of (hazardous) waste and releases through the introduction of cleaner production practices and safer alternatives; assessment and initiation of pilots for valorization of priority waste streams; and enhancement of the environmental performance of existing waste treatment facilities, national treatment capacity for hazardous waste, and hazardous waste interim storage facilities.</p> <p>The assessment of the financial sustainability of Rwanda's solid waste management operations and infrastructure will especially inform waste valorization efforts and the development of an EPR under this project.</p> <p>The Community Awareness Campaign and Separation-at-Source Pilot Initiative can also contribute to improved collection of plastics and e-waste, among other recyclables, to be addressed by participating private sector enterprises under this project and increase the financial sustainability of their operations.</p>
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5	Is there further and better elaboration to show that the project is innovative and sustainable including the potential for scaling up?	<p>The project is innovative as it will explore local and disposal treatment and develop consequently sustainable capacity for environmental sound management of chemicals and waste. Rwanda is one of the few countries where an e-waste facility has been established through a PPP. It appears that the facility is in conformity with international standards.</p> <p>However, I would ask the UNDP to elaborate on how the facility could be used to treat the e-waste streams from neighboring countries.</p>	<p>Enviroserve imported e-waste from DRC and Uganda prior to the COVID-19 pandemic. This was undertaken in compliance with the Basel Convention control system for the transboundary movement of hazardous wastes and other wastes. At the national level, the import of e-waste is approved by the Ministry of Environment (through a letter). National import permit regulations regarding e-waste do not yet exist, but will be addressed under the project.</p> <p>Enviroserve plans to resume importing of e-waste from DRC and Uganda and expand to other countries in the region for treatment in an environmentally sound manner, including repairing, refurbishing, and recycling.</p> <p>Enviroserve has also hosted delegations from several countries in Africa to share its experience and lessons learned for managing e-waste and will resume this in the future subject to COVID-19 pandemic restrictions.</p>
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ANNEX C: Status of Utilization of Project Preparation Grant (PPG).
(Provide detailed funding amount of the PPG activities financing status in the table below:

PPG Grant Approved at PIF: 160,000 USD			
<i>Project Preparation Activities Implemented</i>	<i>GETF/LDCF/SCCF Amount (\$)</i>		
	<i>Budgeted Amount</i>	<i>Amount Spent To date</i>	<i>Amount Committed</i>
Component A: Preparatory Technical Studies & Reviews	70,000	70,000	0
Component B: Formulation of the UNDP-GEF Project Document, CEO Endorsement Request, and Mandatory and Project Specific Annexes	70,000	54,215.61	15,784.39
Component C: Validation Workshop and Report	20,000	0	20,000
Total	160,000	124,215.61	35,784.39

ANNEX D: Project Map(s) and Coordinates

Please attach the geographical location of the project area, if possible.



ANNEX E: Project Budget Table

Please attach a project budget table.

Expenditure Category	Detailed Description	Component (USD eq.)							Total (USD eq.)	Responsible Entity
		Component 1	Component 2	Component 3	Component 4	Sub-Total	M & E	PM C		(Executing Entity receiving funds from the GEF Agency) [1]

Equipment	<p>Hg-free healthcare devices (10,000 thermometers * 3 USD + 500 sphygmomanometer * 25 USD = 42,500 USD);</p> <p>Collection buckets for Hg-added thermometers (10*100 USD = 1,000 USD);</p> <p>XRF analysis device for Hg-related inspection (1*35,000 USD = 35,000 USD);</p> <p>Chemical analysis proofing of XRF results (100*50 USD = 5,000 USD);</p> <p>Shredder for PBDE-containing plastic (20,000 USD);</p> <p>Storage containers for Hg-containing e-waste (10*150 USD = 1,500 USD);</p> <p>Equipment for demonstration pilots on waste generation minimisation, cleaner production, safer alternatives (400,000 USD);</p> <p>Equipment for national laboratory capacity strengthening (260,000 USD)</p>									
		765,000				765,000			765,000	REMA

Equipm ent	Equipment for demonstration pilots to valorise priority waste streams (370,000 USD); Equipment for demonstration pilots to enhance national hazardous waste treatment capacity and environmental performance (370,225 USD); Equipment for improvement of interim storage facilities (337,500 USD); Supplies for PCB sampling and analysis (200*150 USD = 30,000 USD); Supplies for soil contamination sampling and analysis (20*150=3,000 USD)			1,110,725		1,110,725			1,110,725	REMA
Equipm ent	Cost of 3 computers for the PMC including software and licenses (2,500*3 = 7,500 USD); 2 cell phones (400*2 = 800 USD); and running costs (340/year = 1,700 USD)					-		10,000	10,000	REMA

Contractual Services ? Individual	Salary of National Project Manager (1,500 USD/month * 60 months = 90,000 USD); Financial/Administrative Accountant (750 USD/month * 60 months = 45,000 USD); Salary of National Procurement Officer (750 USD/month * 60 months = 45,000 USD)					-		180,000	180,000	REMA
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<p>Contractual Services ? Company</p>	<p>Contracted Company for development of hazardous waste inventory and database (100,000 USD); Assessment of the national laboratory capacity and development of a national laboratory capacity strengthening plan that includes resource mobilisation aspects (20,000 USD); PBDE analysis services (20*400 USD = 8,000 USD); PBDE-containing plastics collection and disposal (1,200 MT * 100 USD = 120,000 USD); and COVID-related waste (from PCR testing and vaccination, such as Guanidine Thiocyanate) collection and disposal (25,000 USD)</p>		<p>273,000</p>			<p>273,000</p>		<p>273,000</p>	<p>REMA</p>
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<p>Contractual Services ? Company</p>	<p>PCB disposal (122 MT * 200 USD = 24,400 USD); PCB transportation and pre-treatment of the oil (250,000 USD); PCB contaminated site remediated (250 MT of contaminated soil * 5,600 USD = 1,400,000 USD) including management; Pesticides disposal ((47 MT of pesticides * 4,000 USD = 188,000 USD) including management; training on contaminated site remediation, testing and application of innovative bioremediation measures, and preparation of financing plan for site remediation (90,000 USD); assessments for demonstration pilots to valorise priority waste streams, demonstration pilots to enhance national hazardous waste treatment capacity and environmental performance, and interim storage strengthening (75,000 USD)</p>			<p>2,027,400</p>		<p>2,027,400</p>		<p>2,027,400</p>	<p>REMA</p>
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Contractual Services ? Company	Contracted Company for SESA, ESIA, and ESMP (110,000 USD); for creating 1 national platform (website) on waste exchange and information exchange (10,000 USD); Translation (10,000 USD)				130,000	130,000			130,000	REMA
International Consultants	International consultants: 1 Intl Chief Technical Expert (50 days*700 USD/day = 35,000); 1 Intl Customs Expert (30 days*600 USD/day = 18,000 USD; Intl Health Care Waste Management Expert (23 days*700 USD/day = 16,100 USD); International Chemicals Expert (18 days*700 USD/day = 12,600 USD); International Finance Expert (30 days*700 USD/day = 21,000 USD)	102,700				102,700			102,700	REMA

International Consultants	International consultants: 1 Intl Chief Technical Expert (50 days*700 USD/day = 35,000 USD); Intl Health Care Waste Management Expert (12 days*700 USD/day = 8,400 USD); International Chemicals Expert (36 days*700 USD/week = 25,200 USD); International Finance Expert (10 days*700 USD/day = 7,000 USD)		75,600			75,600			75,600	REMA
International Consultants	International consultants: 1 Intl Chief Technical Expert (50 days*700/day = 35,000); International Chemicals Expert (36 days*700 USD/week = 25,200 USD); International Finance Expert (10 days*700 USD/day = 7,000 USD)			67,200		67,200			67,200	REMA

International Consultants	Intl Health Care Waste Management Expert (5 days*700 USD/day = 3,500 USD); MTR & TE International Consultant (MTR = 30,000 USD; TE = 30,000 USD); International Gender Expert (30 days*700 USD/day = 21,000 USD), International Safeguards Expert (20 days*700 USD/day = 14,000 USD)				98,500	98,500			98,500	REMA
Local Consultants	Local consultants: National Environmental Law Expert (80 days*550 USD/day = 44,000 USD); National Customs Expert (30 days*400 USD/day = 12,000 USD); National Hazardous Waste Management Expert (50 days*400 USD/day = 20,000 USD); National Finance & Private Sector Expert (60 days*400 USD/day = 24,000 USD)	100,000				100,000			100,000	REMA

Local Consultants	National Environmental Law Expert (20 days*550 USD/day = 11,000 USD); National Hazardous Waste Management Expert (50 days*400 USD/day = 20,000 USD); National Finance & Private Sector Expert (20 days*400 USD/day = 8,000 USD)		39,000			39,000 0			39,000 0	REMA
Local Consultants	National Hazardous Waste Management Expert (50 days*400 USD/day = 20,000 USD); National Finance & Private Sector Expert (20 days*400 USD/day = 8,000 USD)			28,000		28,000 0			28,000 0	REMA

Local Consultants	National Gender Expert (100 days*300 USD/day = 30,000 USD); National Monitoring and Evaluation and Safeguards Officer (60 months*25%*1 000 USD/month = 15,000); National Communications and Stakeholder Engagement Consultant (60 months*25%*1 000 USD/month = 15,000)				60,000	60,000			60,000	REMA
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Trainings, Workshops, Meetings	Training and Workshops: 1 National Inception Workshop (1*35,000 USD = 35,000 USD); 5 Validation Workshops to review (i) drafted legislative regulatory documents, (ii) regulations/guidelines, (iii) industry incentives, (iv) EPR framework, and (v) Customs strategy (5*15,000 USD = 75,000 USD); 6 training events on (i) drafted legislative regulatory documents, (ii) regulations/guidelines, (iii) industry incentives, (iv) EPR framework, and (v+vi) Customs officers training programme (6*20,000 USD = 120,000 USD)	230,000				230,000		230,000	REMA
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Trainings, Workshops, Meetings	Training and Workshops: 4 Validation Workshops to review (i) hazardous waste inventory and database, (ii) demonstration pilots on waste generation, cleaner production, safer alternatives, (iii) Hg-containing products management, (iv) PBDE-containing plastic (4*15,000 USD = 60,000 USD); 6 training events on (i) hazardous waste inventory and database, (ii+iii) demonstration pilots on waste generation, cleaner production, safer alternatives, (iv+v) Hg-containing products management, (vi) PBDE-containing plastic (6*20,000 USD = 120,000 USD)		180,000			180,000		180,000	REMA
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Trainings, Workshops, Meetings	Training and Workshops: 7 Validation Workshops to review (i) PCB management, (ii) contaminated site remediation, (iii) pesticides excavation and disposal, (iv) hazardous waste export procedures, (v) demonstration pilots to valorise priority waste streams, (vi) demonstration pilots to enhance national hazardous waste treatment capacity and environmental performance, (vii) improvement of existing hazardous waste interim storage facilities) (7*15,000 USD = 105,000 USD); 9 training events on (i) PCB management, (ii) contaminated site remediation, (iii) pesticides stockpile management, (iv) hazardous waste export procedures, (v+vi) demonstration pilots to valorise priority waste streams, (vii+viii) demonstration pilots to enhance national hazardous waste			285,000		285,000		285,000	REMA	
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Trainings, Workshops, Meetings	SESP Capacity building/training expenses (7,500 USD)				7,500	7,500			7,500	REMA
Trainings, Workshops, Meetings	Training for PMU on SESP, procurement, project management (20,000 USD)					-		20,000	20,000	REMA
Travel	Mission costs of the International Consultants (4*4,000 USD = 16,000 USD); In-country travel costs for local consultants and PMU for site visits, meetings, and training (including car hire, fuel, drivers, DSA) (40 days*225 USD/day = 9,000 USD)	25,000				25,000			25,000	REMA
Travel	Mission costs of the International Consultants (4*4,000 USD = 16,000 USD); In-country travel costs for local consultants and PMU for site visits, meetings, and training (including car hire, fuel, drivers, DSA) (100 days*225 USD/day = 22,500 USD)		38,500			38,500			38,500	REMA

Travel	Mission costs of the International Consultants (2*4,000 USD = 8,000 USD); In-country travel costs for local consultants and PMU for site visits, meetings, and training (including car hire, fuel, drivers, DSA) (80 days*225 USD/day = 18,000 US			26,000		26,000		26,000	REMA
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Travel	<p>Cost of travel for local consultants organizing M&E process with Intl M&E consultants (5*1,000 USD/year = 5,000 USD); for local consultants (including car hire, fuel, drivers, DSA) for SESA, ESIA, and ESMP consultations (30 days*225 USD/day = 6,750 USD; In-country travel costs for local consultants and PMU for site visits, meetings, and training (including car hire, fuel, drivers, DSA) (25 days*225 USD/day = 5,625 USD); Study tour (8*4,000 USD = 32,000 USD)</p>				49,375	49,375		49,375	REMA
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Travel	Travel related to the inception workshop, Project Board meetings, PMU management and supervision travel, PIR and monitoring gender and results framework indicators (car hire, fuel, drivers, DSA) for the implementation of the project activities (140 days*225 USD/day = 31,500 USD); Presentation of project results at international meetings (2*4,000 USD = 8,000 USD)					-		39,500	39,500	REMA
Office Supplies	Supplies for PBDE sampling/analysis (500 USD)		500			500			500	REMA
Office Supplies	Supplies for PMC activities (1,000 USD/year = 5,000 USD)					-		5,000	5,000	REMA
Other Operating Costs	Printing and publications costs in support of Component 1 activities (4,000 USD/year = 20,000 USD)	20,000				20,000			20,000	REMA
Other Operating Costs	Miscellaneous expenses for Component 1 activities (7,500 USD/year = 37,500 USD)	37,500				37,500			37,500	REMA

Other Operating Costs	Audio-visual & print production costs related to trainings conducted as part of Component 2 (25,000 USD)		25,000			25,000			25,000	REMA
Other Operating Costs	Miscellaneous expenses for Component 2 activities (7,500 USD/year = 37,500 USD)		37,500			37,500			37,500	REMA
Other Operating Costs	Audio-visual & print production costs related to trainings conducted as part of Component 3 (25,000 USD)			25,000		25,000			25,000	REMA
Other Operating Costs	Miscellaneous expenses for Component 3 activities (7,500 USD/year = 37,500 USD)			37,500		37,500			37,500	REMA
Other Operating Costs	Audio-visual & print production expenses for SESA, ESIA, and ESMP (1,000 USD); for awareness raising and communication (60,000 USD)				61,000	61,000			61,000	REMA
Other Operating Costs	Miscellaneous expenses for Component 4 activities (7,500 USD/year = 37,500 USD)				37,500	37,500			37,500	REMA
Other Operating Costs	Audit at 4,500 USD/year for the 5 years (22,500 USD)					-		22,500	22,500	REMA

Other Operating Costs	Miscellaneous expenses for PMC activities (4,600 USD/year = 23,000 USD)					-		23,000	23,000	REMA
Grand Total		515,200	1,434,100	3,606,825	443,875	6,000,000	-	300,000	6,300,000	

ANNEX F: (For NGI only) Termsheet

Instructions. Please submit an finalized termsheet in this section. The NGI Program Call for Proposals provided a template in Annex A of the Call for Proposals that can be used by the Agency. Agencies can use their own termsheets but must add sections on Currency Risk, Co-financing Ratio and Financial Additionality as defined in the template provided in Annex A of the Call for proposals. Termsheets submitted at CEO endorsement stage should include final terms and conditions of the financing.

ANNEX G: (For NGI only) Reflows

Instructions. Please submit a reflows table as provided in Annex B of the NGI Program Call for Proposals and the Trustee excel sheet for reflows (as provided by the Secretariat or the Trustee) in the Document Section of the CEO endorsement. The Agencies is required to quantify any expected financial return/gains/interests earned on non-grant instruments that will be transferred to the GEF Trust Fund as noted in the Guidelines on the Project and Program Cycle Policy. Partner Agencies will be required to comply with the reflows procedures established in their respective Financial Procedures Agreement with the GEF Trustee. Agencies are welcomed to provide assumptions that explain expected financial reflow schedules.

ANNEX H: (For NGI only) Agency Capacity to generate reflows

Instructions. The GEF Agency submitting the CEO endorsement request is required to respond to any questions raised as part of the PIF review process that required clarifications on the Agency Capacity to manage reflows. This Annex seeks to demonstrate Agencies? capacity and eligibility to administer NGI resources as established in the Guidelines on the Project and Program Cycle Policy, GEF/C.52/Inf.06/Rev.01, June 9, 2017 (Annex 5).