

## Circular and POPs-free Plastics in Africa

### General Project information

<b>Project Title:</b>	Circular and POPs-free Plastics in Africa		
<b>Region:</b>	Regional	<b>GEF Project ID:</b>	11049
<b>Country(ies):</b>	Regional, Kenya, Nigeria, South Africa, Uganda, Zimbabwe	<b>Type of Project:</b>	FSP
<b>GEF Agency(ies):</b>	UNEP	<b>GEF Agency ID:</b>	
<b>Executing Partner:</b>	Basel Convention Coordinating Centre for Training and Technology Transfer for the African Region, Nigeria (BCCC Nigeria)	<b>Executing Partner Type:</b>	Others
<b>GEF Focal Area (s):</b>	Chemicals and Waste	<b>Submission Date :</b>	9/16/2022
<b>Project Sector (CCM Only):</b>	Technology Transfer/Innovative Low-Carbon Technologies		
<b>Taxonomy:</b>	Climate Change, Focal Areas, Capacity, Knowledge and Research, Chemicals and Waste, Open Burning, Persistent Organic Pollutants, New Persistent Organic Pollutants, Unintentional Persistent Organic Pollutants, Plastics, Best Available Technology / Best Environmental Practices, Waste Management, Hazardous Waste Management, Climate Change Mitigation, Influencing models, Demonstrate innovative approaches, Transform policy and regulatory environments, Stakeholders, Beneficiaries, Private Sector, SMEs, Individuals/Entrepreneurs, Communications, Awareness Raising, Knowledge Exchange, South-South		

Type of Trust Fund:	GET	Project Duration (Months):	60
GEF Project Grant: (a)	11,000,000.00	GEF Project Non-Grant: (b)	0.00
Agency Fee(s) Grant: (c)	990,000.00	Agency Fee(s) Non-Grant (d)	0.00
Total GEF Financing: (a+b+c+d)	11,990,000.00	Total Co-financing:	39,000,000.00
PPG Amount: (e)	300,000.00	PPG Agency Fee(s): (f)	27,000.00
PPG total amount: (e+f)	327,000.00		
Total GEF Resources: (a+b+c+d+e+f)	12,317,000.00		
Project Tags:	CBIT: No NGI: No SGP: No Innovation: No		

#### Project Summary

Provide a brief summary description of the project, including: (i) what is the problem and issues to be addressed? (ii) what are the project objectives, and if the project is intended to be transformative, how will this be achieved? (iii), how will this be achieved (approach to deliver on objectives), and (iv) what are the GEBs and/or adaptation benefits, and other key expected results. The purpose of the summary is to provide a short, coherent summary for readers. The explanation and justification of the project should be in section B "project description".(max. 250 words, approximately 1/2 page)

Many chemical additives are used in plastics, of which a quarter are of concern (including POPs) with no transparency to downstream users/recyclers. Plastics containing POPs additives have adverse effects on the human health and environment through direct leakage of additives during all life cycle stages and release of uPOPs when burnt in uncontrolled conditions. POPs in plastics value chains also limits circularity. As producers but mainly importer of these products, with

high rates of plastic mismanagement/open dumping, low segregation, limited formal circular businesses, and as successful experiences are often not scaled-up, Africa faces a problem with high levels of plastic pollution releasing POPs when plastic products are openly dumped or burned.

The project aims to reduce the use of POPs in plastics-containing products and uPOPs generation by applying circular economy approaches through four project components:

- § The development for strategies targeting plastics containing POPs
- § Circular economy practices to reduce pollution from plastics containing POPs
- § Environmental sound management of plastics containing waste
- § Knowledge management, capacity building, and communication

The project is innovative in being the first plastics sector project to directly target POPs in plastics. By taking a circular/upstream approach (controlling imports of plastics that cannot be safely managed), it is highly complementary but distinct from projects/initiatives that seek to improve ESM capacity. The project intends to prevent 34.14 tonnes of PBDEs, 29.46 gTEQ of uPOPs emissions, and 37,612.2 metric tons of CO<sub>2</sub>e from entering the environment. 9,000 people (50% female) will be direct beneficiaries of the investment.

## Indicative Project Overview

### Project Objective

Reduce the import, production and use of POPs in plastic-containing products and the generation of uPOPs

Project Components	Component Type	Project Outcomes	Project Outputs	Trust Fund	GEF Project Financing(\$)	Co-financing(\$)
Component 1: Policy and economic instruments targeting plastics containing POPs	Technical Assistance	Reduced imports, production and consumption of plastics containing POPs through implementation of policy and economic instruments	<p>Output 1.1 Gender sensitive policy review and recommendations adopted to align chemicals, plastics and waste regulatory frameworks &amp; instruments</p> <p>Output 1.2 Regulations and instruments endorsed targeting import, production, consumption and waste management of plastics containing POPs</p> <p>Output 1.3 Enforcement plans and modalities established to promote compliance with regulation and monitoring of impacts</p>	GET	2,500,000.00	12,000,000.00

Component 2: Circular economy practices to reduce POPs in problematic plastics	Technical Assistance	Designers and manufacturers of plastic products take steps to replace problematic products/ fractions with more sustainable alternatives	Output 2.1 Industry and product characterization studies to quantify POPs in plastics and prioritize interventions  Output 2.2 Gender-responsive industry and SME pilots to prevent POPs and halogens in plastics via circular economy practices	GET	4,500,000.00	10,000,000.00
Component 3: ESM of plastic waste containing POPs	Technical Assistance	Management of plastic waste containing POPs in an environmentally sound manner	Output 3.1 POPs-containing plastic waste streams characterized and known by waste managers  Output 3.2 Gender-sensitive ESM strategies, practices and standards developed for POPs-containing plastic waste fractions  Output 3.3 Technology options for better segregation and disposal of plastic waste containing POPs	GET	1,450,000.00	13,000,000.00

Component 4: Knowledge management, capacity building and communication	Technical Assistance	Enhanced capacity in applying circular economy practices to reduce pollution from plastics containing POPs	Output 4.1 Gender-sensitive Information, Education and Communication (IEC) strategy for the project delivered  Output 4.2 Targeted capacity building activities conducted  Output 4.3 Regional and global collaboration established and strengthened	GET	1,476,200.00	1,000,000.00
<b>Monitoring and Evaluation (M&amp;E)</b>						
M&E	Technical Assistance	Progress is monitored and facilitates continuous improvement	Output 5.1 Regular progress and tracking reports available to project steering committee  Output 5.2 Independent mid term and terminal evaluations held	GET	550,000.00	1,000,000.00
<b>Sub Total (\$)</b>					<b>10,476,200.00</b>	<b>37,000,000.00</b>
<b>Project Management Cost (PMC)</b>						
				GET	523,800.00	2,000,000.00
<b>Sub Total(\$)</b>					<b>523,800.00</b>	<b>2,000,000.00</b>
<b>Total Project Cost(\$)</b>					<b>11,000,000.00</b>	<b>39,000,000.00</b>

Please provide justification

**PROJECT OUTLINE**

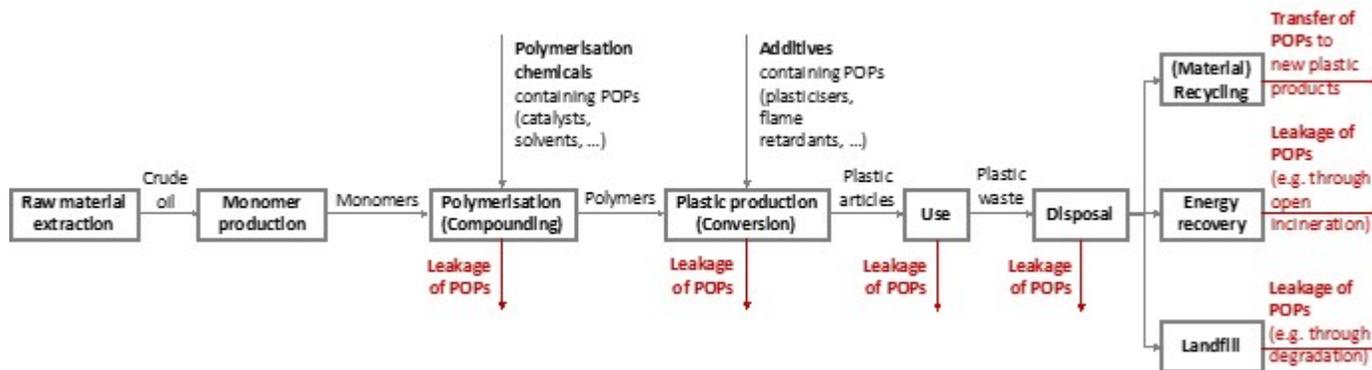
## A. PROJECT RATIONALE

Briefly describe the current situation: the global environmental problems and/or climate vulnerabilities that the project will address, the key elements of the system, and underlying drivers of environmental change in the project context, such as population growth, economic development, climate change, sociocultural and political factors, including conflicts, or technological changes. Describe the objective of the project, and the justification for it. (Approximately 3-5 pages) see guidance here

Many chemical additives are used in plastics, of which a quarter are of concern [1][2], with no transparency to downstream users, consumers, and recyclers [3]. New industrial Persistent Organic Pollutants (POPs) listed in the Stockholm Convention for global phase out are used in plastic production mainly as fire retardants, but also as plasticizers and dispensing agents. These POPs include hexabromocyclododecane (HBCD), polybrominated diphenyl ethers (PBDEs, including Penta-BDE, Octa-BDE and Deca-BDE), short chain chlorinated paraffins (SCCPs), perfluorooctanoic acid (PFOA), and perfluoro octane sulfonic acid (PFOS) and its salts, perfluoro octane sulfonyl fluoride (PFOSF). Polychlorinated naphthalenes (PCNs) were formerly used in plastics and cables (see section 1.1 in Appendix 1, for global details on POPs in plastics and polymers and data gaps).

Plastic waste and products that contain POPs additives contribute to global POPs pollution, through direct leakage of additives during manufacture, use and disposal life cycle stages (see Figure 1) [4][5]. In the absence of interventions the current situation will continue, contributing to global environmental problems.

Figure 1: Plastics lifecycle (adapted) [6]



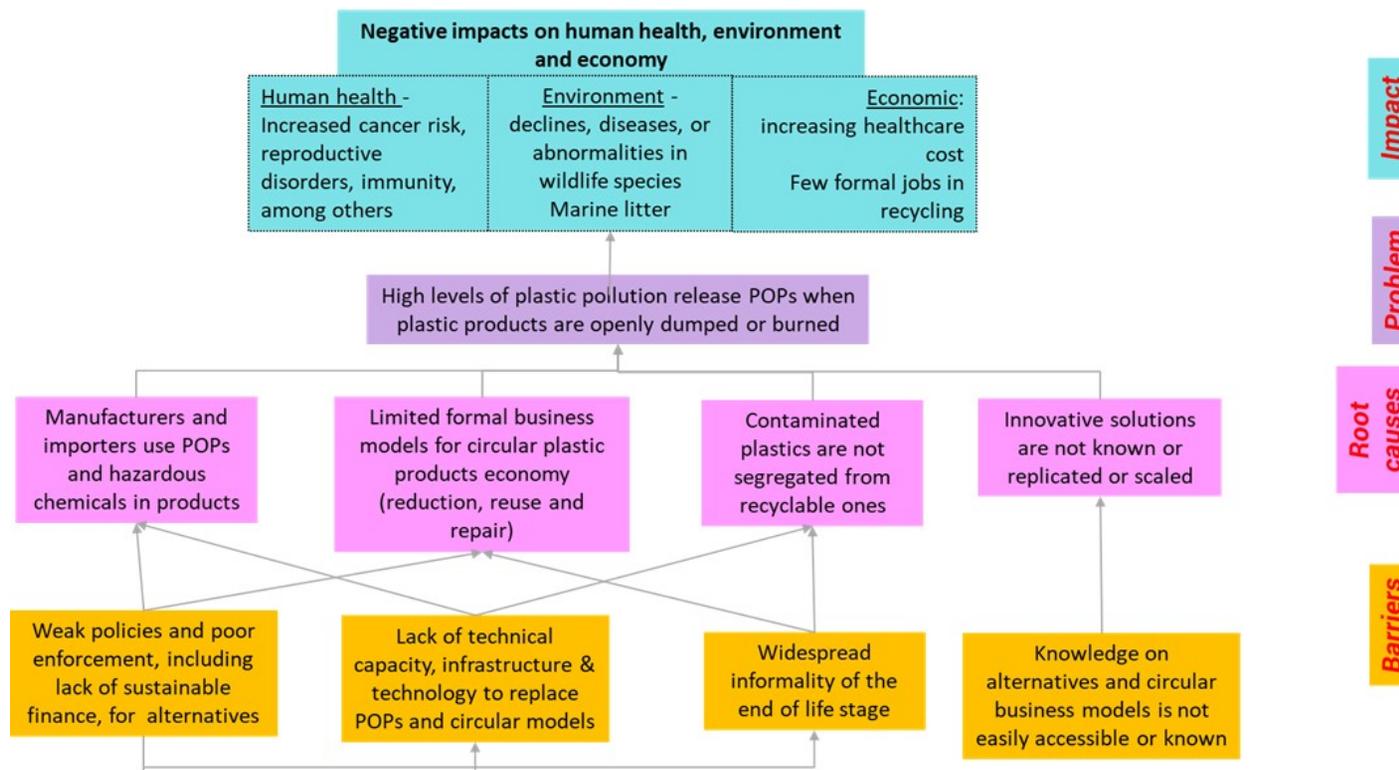
Africa is a contributor to global plastic pollution due to macro and micro-plastic loss to the environment. A global ranking of 192 countries on plastic waste generation indicates that four African countries occupy top positions (Egypt is in 7<sup>th</sup> place, Nigeria is 9<sup>th</sup>, South Africa 11<sup>th</sup> and Algeria 13<sup>th</sup>) [7]. 4.8 Mt of plastic waste was mismanaged on the continent in 2010, possibly reaching 11.5 Mt in 2025 [8]. The continent also has the highest proportion of mis-managed plastic waste globally [9] which is a direct source of releases of POPs into the local and global environments. The countries with the biggest issues with mismanaged plastic waste in 2010 are Nigeria, Algeria, Morocco, Tunisia, Egypt, South-Africa, Cote d'Ivoire; predictions for 2025 also add Senegal, Ghana, Somalia, Mozambique, Madagascar, and Tanzania [10]. Open dumping, often associated with burning, is the predominant disposal method used in Africa [11]. Durable plastic components of key waste streams highlighted in Stockholm Convention National Implementation Plans (NIPs) require specialized waste management approaches for hazardous wastes, which are not available or affordable in many countries. Any plastics that contain halogens may form dioxins and furans

(uPOPs) when burnt in uncontrolled conditions. UPOPs have negative developmental effects on the nervous system and interfere with mechanisms of the endocrine system. The presence of POPs in plastics value chains also limits circularity in the plastics economy, as the POPs-contaminated materials cannot be safely reused and recycled or re-enter the value chain [12].

The project therefore aims to efficiently address the problem by reducing the presence and addition of POPs and POPs-contaminated components, into key product value chains, in order to reduce the future generation of hazardous wastes. The project objective is to reduce the import, production and use of POPs in plastic-containing products and the generation of uPOPs.

The problem analysis (see Figure 2) identified four key root causes which lead to the contribution of plastic pollution to the POPs-related global environmental problems described above. These cover upstream, downstream and crosscutting aspects.

Figure 2: Problem analysis



1. POPs additives are used in polymers and plastic products and are imported as POPs containing polymers and products and assembled in the region.

Industrial POPs are added into the final plastic product mainly at the polymerization or plastic production phase (see Figure 1 above), largely already incorporated as additives before they are imported to the project countries. Most plastics are imported as final products, components to be assembled or preforms to be thermoforms (172 million tonnes (Mt) of plastics and polymers were imported with an additional 58 Mt entering as components of products in 1990-2017). Polymers containing these industrial POPs are primarily used in electronics, vehicles, and building and construction products while electronics and vehicles (both used and new) are prioritized in NIPs. These products are almost entirely imported in the project countries. End of life vehicles (ELV) contain various hazardous

components (oils & solvents, ozone depleting substances from air conditioning, heavy metals, POPs and mercury from electronics, and POPs from plastics including vehicle seats and textiles/ foams). However, there is a lack of requirements for and enforcement of standards for importing these products in the region, given their POPs content and their impacts on climate change and pollution.

Some primary manufacture of plastic polymers and products does exist in Africa (especially Nigeria and South Africa). Primary plastic production in eight African countries contributed 15 Mt during 2009–2015. These produce relevant plastics for the automotive, electronics and construction sectors, where polymers containing industrial POPs are primarily used. Data on the extent of POPs used in local production is not readily available, as import of POPs containing resins and plastic feedstocks happens with limited customs control, or analysis and detection of these POPs. While exemptions under the Stockholm Convention exist for certain new POPs, few African countries have officially registered these and measures to monitor and manage compliance and exemptions are largely lacking. The use of POPs additives and treated resins directly creates POPs waste streams that require handling as hazardous waste at the end of life and cannot be properly treated in Africa. The PPG phase will confirm the extent and distribution of POPs used in the manufacture of those products.

## 2. Limited formal circular businesses for plastics

Upstream interventions in the plastic value chain reduce the amount of plastic waste generated by applying circular economy principles at value chain stages before the product is discarded. Such interventions are not systematically applied for plastic types and products that may contain POPs, since:

§ Refuse, Reduce, Redesign, Replace: Plastic products with hazardous chemicals continue to be produced and purchased due to the absence of procurement or other market-based tools to promote 'cleaner' alternatives. Innovative practices to redesign products to keep functionality but without using harmful chemical additives are lacking. Toxic additives need to be substituted with non-chemical alternatives or non-toxic substances to make recycling easier and to avoid contaminating recycled materials with toxic chemicals. However, the extent of use of POPs additives, and of alternatives to plastic containing POPs are insufficiently known by manufacturers

§ Reuse, Repair, Refurbish: Reusing is an effective strategy in reducing inputs to the market and extending the lifetime of products. There are very effective and established networks and businesses for reuse, repair and refurbishment of plastic waste in Africa but they are often informal. This means their contribution to the circular economy is not quantified or recognized, while opportunities are missed for decent work, better quality, and formalization. The informal waste sector is dominated by women in many countries (see Appendix 2 and below) and lacks recognition, finance and empowerment to scale up its impact. These economically successful models are constrained when hazardous chemicals are present in products that could otherwise be readily reintegrated into value chains.

§ Repurpose and Remanufacture: Sometimes the product cannot be reused for the same purpose, however, it can be modified to fit other purposes, for example vehicle tyres are repurposed into defensive buoys in ports and coastal areas. Special attention has to be put in place for some repurposing activities which could cause harm to humans, such as melting inappropriate plastic to make roads.

## 3. Contaminated plastics not segregated from recyclable plastics

Downstream management of end-of-life plastic products is usually poor, and the lack of better practices means dumping and open burning is the most common endpoint for plastic waste. Problematic plastic waste streams containing POPs which commonly reach landfills or open dump sites include in e-waste, textiles, foams, carpets (see regional baseline in Appendix 1 and Uganda NIP).

Many countries fail to undertake source separation of waste, leading to the co-mingling of various types of waste, which makes appropriate treatment difficult. High poverty rates make waste service fee collection and financing of the overall system challenging. Many African countries lack systems to ensure take-back and end-of-life management for products and goods (including imported products containing hazardous chemicals), resulting in accumulation of wastes and pollution over time. Recycling is common for certain plastics, but collectors (both formal and informal) segregate out only these recyclable streams. Hazardous components are left mixed in with the waste that is dumped, and waste sorters and communities living nearby do not take adequate measures to protect themselves and the environment. Women may face extra disadvantages as collectors and handlers of wastes with extra stigma, less knowledge of the negative health effects associated with open burning for example, and less access to protective equipment.

#### 4. Successful experiences are not scaled up

A fourth root cause for the ongoing plastic pollution problems in the region is a lack of effective sharing of experiences in policy and initiatives between countries that creates barriers for companies that are trying to scale up effective circular models. Successful chemicals and waste management experiences are not widely known, and this prevents them being replicated or scaled up or financed in a significant way. This includes women-owned business that generally have limited access to finance to support business ventures associated with the circular economy. There have been many related successful initiatives (see below) yet there are currently few examples of scaling of good experiences and application of lessons learned.

The four main root causes listed above are underpinned by the following barriers, which connect to the root causes as per the problem tree above.

#### Barrier 1: Policy and economic barriers

§ Chemicals management, waste management, circular economy (CE) and related regulations, policy, economic instruments and incentives are not comprehensive or integrated. For example, some of the new POPs are not explicitly included in national legislative annexes, and the Basel Convention Plastics Amendments are not adopted in national regulations. These regulatory gaps result in a lack of predictability and limits private sector participation and investment.

§ There is weak capacity for enforcement of legislation, particularly around customs control and pollutant bans, which endures because of a lack of adequate and predictable financing and limited application of economic instruments to raise public finance for sound management of chemicals and waste. EPR mechanisms only partially cover plastic streams and typically do not cover items containing hazardous chemicals and becoming hazardous waste at the end of life.

§ Enabling, innovative, and long-term financing mechanisms are needed to facilitate CE business models (e.g., product-as-service models). For example, EPR, product standards (RoHS for electronics, age limits for vehicle standards), or Sustainable Public Procurement or ecolabels are not in place. Access to financial services for enterprises (such as Micro- and Small and Medium Sized Enterprises) and investment in appropriate infrastructure in waste collection and treatment are currently lacking.

#### Barrier 2: Technical capacity, infrastructure and technology

§ Limited private sector involvement and investment for circular plastics economy business models and products. Private sector partners and particularly SMEs lack the confidence of reliable and sustainable return on investment, either for production of alternative products, circular business models, and presence of secondary local end-use markets for recycled and recovered materials.

§ Lack of technically skilled circular economy and waste management practitioners in the public and private sectors, and lack of chemistry experts in the SMEs that produce or recycle plastics, with a lack of knowledge whether they are actually using POPs and how they could be replaced or removed from the material flows.

§ Limited infrastructure for environmentally sound management of wastes, for segregation and recycling of plastics. Poor landfill management and many open dumps in cities receive much of the plastic waste generated in cities and industries.

§ Development finance institutions are actively supporting municipal integrated waste management (IWMM) and plastic investments (e.g., Clean Oceans Initiative) but may not be focusing on the contaminated plastics and the relevant recycling and disposal obligations set by the Stockholm and Basel conventions <sup>113</sup>.

### Barrier 3: Informality & lack of formal economic investments

§ The often-informal nature of waste management on the continent limits the sector's growth, for example, due to the lack of organized systems for take-back or license provisions for sorting and dismantling e-waste.

§ The lack of visibility of circular businesses focusing on repair, refurbishment and lifetime extension of key plastic products means they cannot be formally supported e.g. through tax or other economic incentives.

§ Limited participation of commercial banks in financing circular economy initiatives, especially for SMEs. For example, due to the adoption of new technologies and underdeveloped supply chains and associated infrastructure, banks often lack the adequate familiarity and experience to provide appropriate support that fits within regular bank operations and instead may incorrectly characterise such funding requests as high risk. Start-up costs can also be unusually high, especially for SMEs, due to the need for initial research such as market assessments, value chain analysis, and feasibility studies. National development banks are also in the early stages of promoting and funding circularity initiatives and particularly so for material and chemical management issues.

§ Limited access to sustainable financing by informal sector and SMEs (HSE, certification, reporting)

### Barrier 4: Knowledge gaps

§ Limited available, harmonized, and comparable data, for example through legal obligations to record and report data. A lack of data on the use of POPs in manufacture, on waste generated, characterization of that waste, and related data on market opportunities within a country poses significant challenges to both the public and private sector to planning and undertaking financial and technical investments for the CE and waste management. The difficulty of easily detecting the presence of new POPs in products also hinders the ability of regulators to know how to respond to control these.

§ Public knowledge on circular choices & practices. Information and knowledge on the role of the public in, and potential benefits of, circular approaches is low, resulting in a lack of public participation in supporting value chain activities such as sorting waste at the household level, which can impact waste treatment initiatives and increase exposure to hazardous substances, or of making more sustainable consumption choices

§ Inadequate regional coordination. A lack of or variable standards and certification systems within countries and across the region results in inconsistent criteria for manufacturing products and use of recycled materials, which affects waste generation and management practices including trade. For example, one country may accept the use of certain recycled materials for food packaging, while other countries may not, resulting in challenges to private sector investment.

§ Lack of established communication channels within and across sectors, national boundaries, and institutions (including different levels of government) undermines the development and consolidation of regional knowledge and regionally appropriate best practices.

The project has been designed and structured to address the above causes and barriers of environmental degradation. A few global and regional trends are also barriers to the more effective management of plastic waste. These macro-trends are not within the control of the project but will need to be factored into the design and risk mitigation plans. Rapid increase in consumption as a result of fast population growth and urbanization with poor waste management systems intensify plastic pollution. Waste generation in Africa is driven by population growth, a growing middle class, changing consumption habits and production patterns, industrialization, and global waste trade and trafficking. The urban population in Africa is increasing at a faster rate than any other continent (3.5% per annum). Sub-Saharan Africa is forecast to become the dominant region globally in terms of total waste generation if current generation trends persist. The increasing amounts of domestic waste contaminated with hazardous waste due to increased consumption, insufficient separation and infrastructure, and a lack

of proper legal frameworks and enforcement, is a major challenge for cities. Cities should be supported to work towards integrated actions to reduce waste generation at the source, ensure ESM of waste, and minimize natural resource extraction by employing CE approaches, which promote reducing, redesigning, reusing, repairing, and recycling.

### Fit with current investments and building on baseline context

IPEN's report on plastics and circular economy<sup>[14]</sup> identified huge volumes of diverse plastics waste streams, coupled with a lack of information on hazardous ingredients in plastic products as a barrier to countries seeking to implement circular economies. OECD's Global Plastics Outlook<sup>[15]</sup> is a comprehensive global analysis of current plastics production, use and waste generation, underlying economic drivers and environmental impacts. The report identifies four key levers that are essential to bend the plastics curve: (i) markets for recycled (secondary) plastics, (ii) technological innovation in plastics, (iii) domestic policy measures and (iv) international co-operation, including international financing. In terms of domestic policy, three stages of increasingly 'circular' interventions are proposed. The most circular policies include single use item bans; regulating hazardous substances as part of designing for circularity and increasing recyclability; modulating EPR fees, i.e., reducing costs for more circular products; or creating recycled content standards. These latter two would create direct economic incentives for plastic manufacturers to replace POPs and hazardous additives which cannot be recycled.

Import restrictions are a regulatory lever that may prevent the accumulation of hazardous plastic wastes in a country. Critical products for POPs content are electronics and vehicles (both new and used), which are almost entirely imported into the project countries with no local manufacture. The Restriction of Hazardous Substances (RoHS) originated in the European Union in 2002 and restricts the use of six hazardous materials found in electrical and electronic products, including heavy metals, Polybrominated Biphenyls (PBB) and Polybrominated Diphenyl Ethers (PBDE). Since 2011, RoHS compliance is required for products with the 'CE' (European) eco-label, while in 2015 the RoHS restricted list also added four phthalates to the list. Non-European countries have adopted related regulations restricting imports of non-RoHS compliant products, including China, Eurasian Economic Union, India, Turkey and Viet Nam<sup>[16]</sup>. Manufacturers and importers are required to provide a declaration of conformity and/or provide a mark of conformity (similar to the CE mark) prior to importing products. According to UNEP in 2020<sup>[17]</sup>, no regulatory approaches addressing the Chemicals of Concern in electronics could be identified for the African region. There are indications that approaches exist or are currently being developed in Tunisia and Kenya, however, no further information could be found. The report "Five Big Bets for the Circular Economy in Africa" by the World Economic Forum shows that for Africa there are significant CE solutions for improved electronic waste management. Special attention should also be paid to smart product design to reduce resource consumption and energy use, facilitating the reuse of product components and extending product lifetimes.<sup>[18]</sup>

For vehicles, two regulatory options have the potential to address numerous environmental issues. As POPs are gradually phased out from vehicle production, and fuel efficiency and safety are increasing with newer vehicles, attention is growing to the role of standards and age limits for importing used vehicles given to address issues of climate change, air quality, and traffic casualties. Africa imported 40% of all used vehicles globally between 2015-2018; and while the global fleet of vehicles is due to double by 2050, there remain few regulations or standards governing the quality and safety of used vehicles<sup>[19]</sup>. POPs in end-of-life vehicles (ELV) were phased out in different manufacturing regions at different times. PBDE (c-penta BDE in vehicles and c-octa BDE in electronics) and HBCD were used in the production of vehicles between 1975 and 2014. PBDEs were produced and used from 1970 to 2004 and the use of HBCD might be assumed until approximately 2014<sup>[20],[21]</sup>. Vehicles produced in the United States contain the highest concentrations of c-PentaBDE, while the POP was rarely used in European cars<sup>[22]</sup>. 90% of c-PentaBDE has been used in North America<sup>[23],[24]</sup>, corresponding to the probable contamination of approximately 200 million vehicles during 1975 and 2004<sup>[25]</sup>. Japan discontinued the use of c-PentaBDE in the early 1990s while there is uncertainty over its production and use in China. No data is available on c-PentaBDE use for vehicles produced in Latin America, the Caribbean, and Africa. For countries importing ELV, an age limit restricting imports of cars produced before 2014 would therefore also effectively prevent imports of POPs contaminated materials, and avoid having to treat them at end-of-life.

Meanwhile the rapid growth in electric mobility has highlighted the need and potential for a circular approach for electric vehicles, including batteries and the valuable metals they contain<sup>[26]</sup>. Vehicle EPR schemes are well-established in developed regions but are lacking in Africa, so export of vehicles to areas with poor waste management capacity constitutes a 'leakage' from the EPR schemes, in a similar situation to electronics and e-waste. The Directive of the European Parliament and of the Council of 18 September 2000 on end-of-life vehicles<sup>[27]</sup> states that producers should meet all or a significant part of the costs of the owner delivering the end-of life vehicle to an authorized treatment facility. In Japan, customers pay a fee when purchasing a new car which is managed by a third party, the Japan Automobile Recycling Promotion Center (JARC) under the principle of shared responsibility. In South Korea, a framework is created to hold the producers and importers responsible for the use of resources. The term product stewardship, indicating a shared responsibility between all parties involved in a product's life cycle (from producer to disposer) is most often used and at the US national level, measures related to addressing contaminants of vehicles have been voluntary.<sup>[28]</sup>

The COVID-19 pandemic has exacerbated the challenges of poverty, inequality, unemployment and environment facing the African continent. There is a unique opportunity to rebuild green and resilient post-COVID-19 economies in Africa. Circular economy processes and strategies create socio-economic benefits. A study on recycling in California showed that in the US waste collection and landfill disposal creates less than 1 direct jobs per 1,000 tons managed, while recycling waste (collection, processing, and manufacturing) creates 6-13 or more direct jobs per 1,000 tons<sup>[29]</sup>. For plastics, this number of potential jobs is the highest. In Africa, reuse, recycling and recovery of waste would generate extra income as a secondary resources economy could inject an extra 8 billion USD per year into the African economy.<sup>[30]</sup> The recycling industry holds a huge potential since currently, only 4% of all waste is recycled. Putting in place the right circular economy initiatives and policies will support the recovery and trigger new market opportunities for circular economy.

When plastic products are recycled, it is highly likely that the additives will be integrated into the new products<sup>[31]</sup>. Absence of transparency and reporting across the value chain often results in lack of knowledge concerning the chemical profile of the final products. For example, products containing brominated flame retardants have been incorporated into new plastic products<sup>[32],[33],[34],[35],[36]</sup>. Flame retardants are a group of chemicals used in electronic and electrical equipment, textiles, furniture and construction materials which should not be present in food packaging or childcare products. A recent study found brominated dioxins as unintentional contaminants in toys made from recycled plastic electronic waste that contained brominated flame retardants<sup>[37]</sup>.

Additives can also be problematic if waste is burned, especially when burning is uncontrolled or takes place in low-technology incinerators, as is common in many developing countries. Incomplete combustion can cause emissions of hazardous substances such as acid gases and ash which can contain persistent organic pollutants (POPs) such as dioxins<sup>[38]</sup>. For this reason, plastics waste containing POPs should not be reused to avoid POPs re-entering the value chain. POP-containing plastics can be separated from general plastic waste streams using methods such as electronic screening, e.g. XRF (X-Ray Fluorescence). Plastics containing POPs need to be sent to authorised disposal or recovery facilities that can completely destroy POPs or irreversibly transform them. This can be achieved using one of the following methods: gas-phase chemical reduction which makes use of hydrogen at elevated temperatures, and has been used on commercial scale in Australia, Canada, Japan, and the US; mechanochemical methods such as ball milling which combine mechanical impact with reagents to create a reduction reaction; supercritical water oxidation which oxidises and decomposes organic materials; and chemical methods such as the CreaSolv® process which separates POPs (which then need to be destroyed using one of the previously described methods). Incineration with or without energy recovery can in cases be applied, although it is advised to be avoided, as combustion and other incineration processes have a strong tendency to form uPOPs which are transferred through emissions or residues from filters<sup>[39],[40]</sup>.

The Basel Convention adopted the Plastic Waste Amendments in 2019 which explicitly recognize certain categories of plastics as hazardous wastes and therefore require countries to apply the Basel Convention procedures including notification and prior informed consent (PIC) for imports. The Convention Annexes defining hazardous waste (Annex VIII) was updated to include plastics with POPs additives; while the annex defining non-hazardous wastes (Annex IX) is limited

to single, non-halogenated polymers that may still be exported for recycling and are exempt from the PIC requirements. Parties should update their national legislation. The entry into force of the Amendment was January 2021. Of the project countries, only Nigeria has ratified the Basel Convention.

While there are several global investments being made into waste management infrastructure and processes, particularly for municipal solid waste, these may not adequately address the requirements for proper segregation and treatment of plastics that contain hazardous chemicals. Initiatives such as the KEKO, the South Africa Plastics Pact, and PetrecoZim in Zimbabwe are supporting development of waste management capacity involving multiple stakeholder groups and will be approached for partnership and to ensure that problematic plastics are known and properly addressed. A key driver for leveraging private sector investment for waste management of hazardous fractions is the political will of governments to create and enforce obligations on waste producers to pay for environmentally sound waste management services.

Women have a (formal and informal) role as consumers, recyclers, waste collectors, plastic producers, and providers of circular economy solutions in the plastics value chain and come into contact with POPs in plastics at all stages. Different studies estimate that between 30%-80% of the workforce in the plastic industry are women, depending on location<sup>[41]</sup>. In Uganda, an estimated 80% of workers in the waste management and plastics recycling sector are women<sup>[42]</sup>. Currently, very few data on women's participation at each stage of the value chain is available in the remaining project countries. In the waste sector in general, gender inequalities still exist at implementing and decision-making levels as women often carry out lower-income tasks and men take on positions of higher authority (see Appendix 2 for further information).

As presented in section 2 under Appendix 1, African countries mainly import polymers and components of plastic products but a few countries also produce primary plastics. Environmentally sound end-of-life management of waste plastics by recycling and energy recovery is in its infancy in Africa, but recycling activities and thermal recovery have started in a few countries.<sup>[43]</sup> The challenges facing the Africa plastics industry mainly include: domestic production being supplanted by imports; lagging behind developed countries in terms of production methods, product quality, scale of production and product range; the conservative attitude of manufacturers and consumers towards new materials; lack of government support; and a shortage of good infrastructure to boost manufacturing<sup>[44]</sup>.

The proposed project directly responds to recommendations by the African Ministerial Conference on the Environment (AMCEN) in 2019 to adopt circular economy to address plastic pollution from a life cycle perspective, while ensuring coherence and coordination with activities undertaken by existing regional and international instruments. African countries have started to act on plastics waste. Kenya banned the manufacture and import of all plastic bags in 2017, Rwanda in 2008, and Tanzania banned on the importation, export, manufacture, sale and use of plastic bags in 2019. Many other African countries including Benin (2018), Burkina Faso (2015), Cameroon (2014), Côte d'Ivoire (2014), Ethiopia (2007) and Mali (2012), Gambia, Guinea-Bissau, Malawi, Mauritania, Sierra Leone, Tanzania, and Uganda (2021), have either adopted or proposed bans on polythene bags. Other measures taken by countries include taxes on single use plastic bags.<sup>[45]</sup> Besides a plastic bag ban, Tanzania also has a plastic bottle ban (2006). However, enforcement and regulations on plastic additives and other chemicals in products remains weak<sup>[46]</sup>. No project countries have regulations on POPs in plastics. Waste management laws and age limits on used vehicle import are present in all project countries while (draft) EPR guidelines or policies have been developed in all. Little life cycle data on plastics is available on country-level and data on POPs containing plastics are often estimates. The latter can mostly be found in the countries' NIPs, especially on POPs in vehicles and electronics. NIPs covering the POPs used in plastics have been developed for all project countries but South-Africa, although the country is currently updating its NIP. Most countries have plastic manufacturing industries, and all project countries are part of the top 11 countries on the continent regarding plastic imports and consumption between 1990 and 2017<sup>[47]</sup>. Please refer to Appendix 1, section 3 for more information on the project's countries relevant legislations, priorities and plastic value chain data. Most of this information was gathered during the PIF's consultations with the project countries (see section 5 in Appendix 1).

The project will link with associated baseline initiatives and projects (see section 4 under Appendix 1). At global level, the Basel Plastic Waste Partnership, Alliance to End Plastic Waste, Global Plastic Action Partnership, and the Platform for Accelerating the Circular Economy (PACE) are working to prevent and/or reduce plastic waste generation, increase recycling and/or work on circular economy solutions. The SAICM Knowledge Platform and Green Growth Knowledge Platform host networks and present information on Chemicals in Products and knowledge to support a green industrial transformation. A BRS study on Chemicals and Plastic Governance to be published in October 2022 will provide further baseline information on the POPs in plastics issue. In the region, The African Ministerial Conference on the Environment (AMCEN), African Circular Economy Alliance (ACEA), and Africa Circular Economy Network (ACEN) provide platforms where the value of circular economy and its potential to reduce plastic waste are recognised. Three GEF projects (GEF ID 1041 in Ghana, GEF ID 9263 in Cote d'Ivoire and GEF ID 9684 under the MED programme) have been working on a plastic circular economy; the sound management industrial waste (including electronics and ELV) and its emissions of uPOPs and PBDEs in Cote d'Ivoire; and inventories of HBCD in insulations and SCCP in PVS in the Mediterranean region respectively. In other regions, the Plastic Sulit project (GEF ID 10546), the ADB plastics project (GEF ID 10628) and the LAC Plastics project (GEF ID 10547) will generate and provide further knowledge on plastics circularity. At country level, many initiatives and project are present like the Kenya Plastic Waste Partnership Project and Plastics Pact, the Nigeria e-waste project (GEF ID 10141) and plastic waste Small Grants Programme[48], the South Africa Plastics Pact, the Uganda plastic waste partnership pilot project[49] and national inventory of Marine Litter and Plastics Pollution, and the NORAD plastics project in Malawi and Zimbabwe[50]. See section 4 under Appendix 1 for more initiatives and for more information on these presented projects/initiatives. Section '*Coordination and Cooperation with Ongoing Initiatives and Project*' explains how the project will coordinate with these most relevant initiatives.

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## B. PROJECT DESCRIPTION

### Project Description

**This section asks for a theory of change as part of a joined-up description of the project as a whole. The project description is expected to cover the key elements of good project design in an integrated way. It is also expected to meet the GEF's policy requirements on gender, stakeholders, private sector, and knowledge management and learning (see section D). This section should be a narrative that reads like a joined-up story and not independent elements that answer the guiding questions contained in the PIF guidance document. (Approximately 3-5 pages) see guidance here**

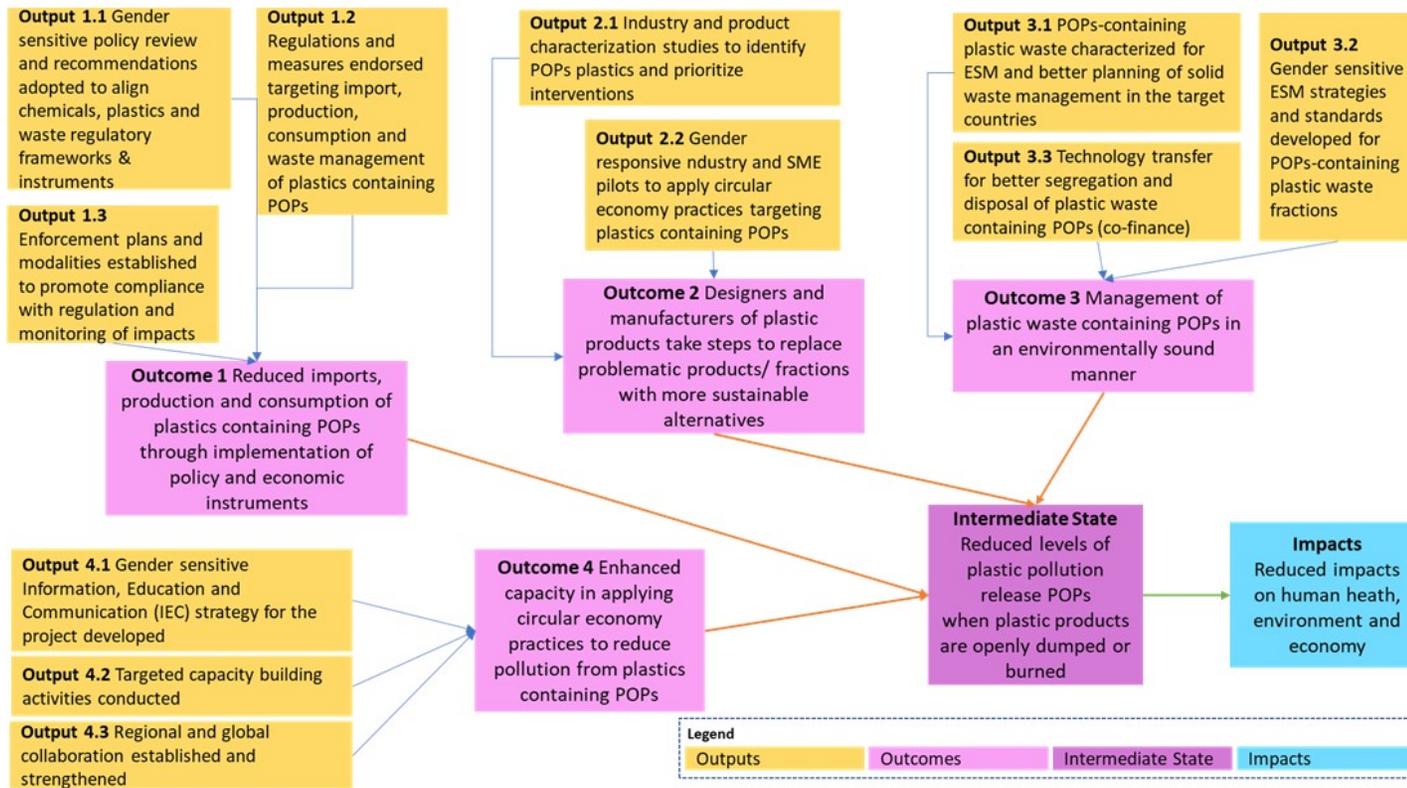
The project is proposing to apply circular economy approaches to reduce the presence of POPs in plastics and plastic products in Africa, including by

- § Refuse and Reduce POPs from plastics and polymer production
- § Redesign: Innovative practices to redesign products to keep functionality but without using harmful chemical additives
- § Reuse, Repair, Refurbish, and Remanufacture: upstream circular economy approaches and business models
- § Recycle and Residues: dealing with hazardous waste to complement the upstream solutions.

The Theory of Change (Figure 3 below) presents the four approaches (project components) to identify and address root causes underlying the release of POPs and the barriers to reduce this pollution:

- § Development of strategies targeting plastics containing POPs (Component 1)
- § Circular economy practices to reduce pollution from plastics containing POPs (Component 2)
- § Environmental sound management of plastic waste containing POPs (Component 3)
- § Knowledge management, capacity building and communication (Component 4)

*Figure 3. Theory of Change*



The project is innovative in being the first plastics sector project to directly target the industrial POPs that are introduced into plastic production and recycling, and present in plastic products. The project is taking a circular and upstream approach including by controlling imports of problematic plastics that cannot be safely managed in the project countries at their end of life. This waste prevention approach is highly complementary with but distinct from projects and initiatives that seek to improve the capacity for ESM on the continent.

Through its approach, socio-economic benefits such as job creation, improvement of livelihoods and worker conditions and formalisation of certain sectors such as recycling will be achieved. Human health will improve, and environmental pressure will reduce due to reduced POPs releases through plastics and plastic pollution.

Women will be important beneficiaries of this project. During the PPG, a gender analysis will collect more information on how plastic pollution and especially POPs-containing plastics, affect and impact women and men (see Appendix 2), and also examine whether and what gender inequitable contexts may exist within the countries that may affect the achievement of project objectives in a gender-responsive manner. This will inform the gender action plan with at minimum a set of sex-disaggregated indicators and targets and monitoring data collection, equal opportunities to participate in project activities and decision making at all levels, and specific training and awareness raising events on gender mainstreaming. A dedicated gender consultant and/or partner will be responsible for delivering and monitoring results of the Gender Action Plan, and the project will seek to achieve a gender balance in the project management teams at regional and national levels, to ensure that gender issues are properly integrated into the project cycle and that the various needs of men and women are effectively

addressed. The Action Plan will identify potential positive and negative gender impacts of project interventions under each component and set out mitigation measures for risks and proactive strategies to capture and strengthen positive opportunities, including incorporating remedial actions that address any gender inequities present in project implementation.

The project will target the plastic products and applications that may contain POPs, particularly in building and construction, electronics, child products, automotive and textile sectors, plastics used in food and beverages, agriculture, recreation, fishing, tourism sectors, and plastics that are usually openly burnt and dumped. Below is the alternative scenario proposed for the project. Concrete activities in each project country will be further identified in the PPG phase.

### **C1: DEVELOPMENT OF STRATEGIES TARGETING PLASTICS CONTAINING POPS**

Outcome 1 aims to reduce import, production and consumption of plastics containing POPs, by adopting and implementing policy and economic instruments. Through its regional approach, the project will ensure policy coherence. The key instruments that have been identified are import restrictions, including use of certifications like ROHS for electronics or age limits for used vehicles; circular economy policies including aligning public finance to support private investment for more sustainable alternatives to POPs or EPR for life cycle management; and public procurement and eco-labelling to drive sustainable consumption choices. This component will support governments in accessing experience and best practices on practically developing and implementing such instruments and support national compliance processes such as stakeholder consultation and monitoring. Private sector actors including EPR organisations, recycling companies, plastic producers and plastic suppliers will be consulted (see Appendix 3). Policy development and enforcement strategies will ensure women are fully consulted and that any policy or other instrument reflects national and international obligations on gender mainstreaming.

#### **Output 1.1 Gender sensitive policy review and recommendations adopted to align chemicals, plastics and waste regulatory frameworks & instruments** [\[BUS1\]](#) [\[ET2\]](#)

Activities under this output may include:

§ Review current national policies and regulations on circular economy, management on chemicals of concerns and plastic pollution, as well as waste management, accessing best practices at international level and South-South cooperation between the project countries

§ Prioritize key value chain 'hotspots' and relevant policy instruments that would provide most impact in terms of reducing POPs (in close coordination with the characterization studies under Components 2 and 3)

§ Provide, adopt and implement actionable strategies to reduce the pollution from plastics containing POPs including improving the environmentally sound management of plastic waste containing POP, based on the policy and regulation review

Output 1.1 will be initiated during PPG and concluded by the end of Year 1 to allow adequate time for implementation of the action plans and measures.

#### **Output 1.2 Regulations and measures endorsed targeting import, production, consumption and waste management of plastics containing POPs**

Activities under this output may include:

§ Develop and adopt strategies targeting import, production, consumption and waste management of plastics containing POPs, which will include responsibilities and roles of relevant stakeholders and timebound targets

§ Introduce standards, eco-labels and public procurement policies to create market incentives for circular alternatives and solutions

§ Develop financial instruments such as EPR schemes to improve integrated plastic waste management including waste segregation, collection, recycling and safe disposal of residues and hazardous fractions

§ Develop and implement import requirements targeting priority products containing POPs (e.g. EEE, used vehicles) including improved capacity for analysis of products and materials; reporting and notification obligations for treated resins or products, and import standards

### **Output 1.3 Enforcement plans and modalities established to promote compliance with regulations and monitoring of impacts**

Activities under this output may include:

§ Stakeholder consultations with enforcement and government and non-state compliance actors and mechanisms to identify and commit to joint enforcement approaches

§ Joint delivery and capacity building of all stakeholders to promote compliance and monitoring, including linking issues of chemicals in durable plastic to wider plastic sector interventions and tracking (which may focus on packaging and single use plastics, not the types that may contain hazardous chemicals)

§ Guidance and technical support on testing capability for POPs in products, including on detection limits for analysis, and sampling and analysis techniques and solutions to address the illegal importation of POPs-containing products

## **C2: CIRCULAR ECONOMY PRACTICES TO REDUCE POLLUTION FROM PLASTICS CONTAINING POPs IN THE TARGET COUNTRIES**

Outcome 2 is that designers and manufacturers of plastic products take steps to replace problematic products/fractions with more sustainable alternatives. This component will support in testing and applying circular actions on improving circular design for products and business models, enhancing innovation on design to encourage more durable products to avoid early replacement and more consumption, and reuse, refurbishment and remanufacturing. The project will target sectors where POPs and other hazardous additives are used and will support manufacturers to eliminate them. Project activities under this component will lead to socio-economic benefits such as job creation and improved worker conditions. Pilot projects will be gender-sensitive as they will be designed and selected to ensure women will get equal access to pilots and opportunities (e.g. BAT/BEP, risk management, circular business models) including guidance of female entrepreneurs to access finance, the use of PPE or adoption of risk-reduction countermeasures. Under this component, collaboration with private sector will be crucial to reach the desired outcome. At global and regional level, the project will engage international plastic producers in particular producers of PVC, vehicles, electrical and electronic equipment containing POPs and polymer producers whose products are imported into African countries. At national level, private industry partners including plastic manufacturers, chemical and plastic suppliers, and any plastic associations such as Producer Responsibility Organizations for EPR will be engaged. See Appendix 3 for a more detailed list of identified private sector actors and planned engagement approaches.

### **Output 2.1 Industry and product characterization studies to quantify POPs in plastics and prioritize interventions**

§ Develop product characterization studies to identify POPs-containing plastics and prioritised products including sampling and analysis to confirm presence and concentrations of POPs

§ Business plans for prioritised interventions by private sector entities to reduce the pollution from POPs-containing plastics, including consideration of investment and financial support and sustainability

This output will be initiated during PPG phase to identify relevant industries and companies and start upstream consultations to mobilize investment cofinance.

### **Output 2.2 Gender-responsive industry and SME pilots to prevent POPs in plastics via circular economy practices**

§ Conduct pilots with international and national producers to improve the design to eliminate POPs in targeted plastic products and replace with alternatives

§ Conduct pilots with international and national industrial stakeholders including SMEs to extend the lifespan of products to reduce the frequency of product replacement (e.g., PVC pipe, furniture, vehicle) through redesign, repair, refurbishment and remanufacturing

### **C3: ESM OF PLASTIC WASTE CONTAINING POPs**

Outcome 3 is that plastic wastes containing POPs are managed in an environmentally sound manner. This component will develop ESM strategies and standards to ensure the ESM of plastic waste containing POPs, with a specific focus on the informal plastic waste collectors and recyclers in particular women and vulnerable groups. Technology options will be assessed in the context of influencing larger waste management investments and initiatives to consider and address the hazardous plastic wastes. In Appendix 3, some identified recycling companies in the project countries have been listed.

### **Output 3.1 POPs-containing plastic waste characterized and known to waste operators**[\[BUS3\]](#) [\[ET4\]](#)

§ Sample and detect POPs in plastic products and waste streams including plastics that have been segregated for recycling, and build a database POPs in plastics in Africa

§ Engage networks of waste management and recycling operators, and make the database of POPs in plastics in the organized waste collection sector accessible to the waste operators (in coordination with Output 4.2)

Develop a waste characterization study on POPs contained parts of mismanaged plastic waste and use this to inform the other outputs in prioritizing product types for preventative actions by regulators and industry

### **Output 3.2 Gender-sensitive ESM strategies, practices and standards developed for POPs-containing plastic waste fractions**

§ Develop ESM strategies and standards for recycling and waste management of POPs-containing plastic waste fractions in the target countries

§ Avoid the release of unintentionally produced POPs through banning the open burning of plastics in places like backyards and dumpsites.

§ Hand-on guidance for informal sector and waste handlers on identifying, segregating and reducing exposure to plastic waste streams that are likely to contain POPs and hazardous chemicals, and reducing leakage to the environment.

### **Output 3.3 Technology options for better segregation and disposal of plastic waste containing POPs**

§ Identify the needs for segregation and disposal technologies in the target countries, taking into account relevant Guidelines on Best Available Techniques (BAT) and Best Environmental Practices (BEP) under the Stockholm Convention and technical guidance on plastic waste under the Basel Convention.

§ Facilitate the introduction of relevant technologies to upgrade the facilities for ESM of POPs-containing plastic waste in the target countries (cofinance) and ensure that planned investments adequately plan for and manage hazardous components in an ESM.

#### **C4: KNOWLEDGE MANAGEMENT, CAPACITY BUILDING AND COMMUNICATION**

Outcome 4 is to enhance capacity in applying circular economy practices to reduce pollution from plastics containing POPs. This component will increase the uptake of solutions developed in Component 1-3, through regional and international dialogues, training, outreach and awareness raising campaigns and will consider gender, vulnerable and indigenous groups. Targeted awareness raising will be responsive to women's information and knowledge gaps identified in the baseline, and capacity building opportunities will be provided (including by female trainers) at times and in formats that favour women's participation. The component will increase the awareness of problems resulting from POPs in plastics, the impacts on human health and the environment as well as communicate the gained knowledge, learning and success stories from this project's activities. The capacity development activities will support direct beneficiaries and partners involved in Components 1-3.

The component will also deliver an output to ensure that the types of plastics that typically contain POPs, are explicitly addressed in regional and global initiatives promoting a circular plastics economy . Through the development of a pragmatic and affordable monitoring programme, based on the baseline on POPs in priority plastic pellets and POPs pollution established under this project, a robust mechanism to monitor and evaluate POPs pollution reduction will be developed, and results compiled from the project countries to showcase their progress.

##### **Output 4.1 Gender-sensitive Information, Education and Communication (IEC) strategy for the project delivered**

§ Develop and consult the project communication strategy at national, regional and global levels, ensuring that the strategy objectives, the messages and channels to be adopted will be gender-sensitive and include women's perspectives and knowledge needs into account.

§ Conduct awareness raising activities, including campaigns towards informal collectors and recyclers for better segregation and disposal

§ Compile and disseminate project knowledge products via various platforms including a project website. Knowledge will be summarized in terms of effective policy framework and instruments, circular product design, business models, technology, financing mechanism, and knowledge products (such as case studies, learning modules, videos), tailored for different stakeholders at all geographical levels. In particular the project will ensure that all knowledge products and data on the gender equality and plastic pollution nexus is thoroughly documented and made available to the public in appropriate formats

##### **Output 4.2 Targeted capacity building to establish sustainable knowledge and capacity for plastic management**

§ Develop training materials and conduct national and regional training towards customs/inspectors in collaboration with the BRS Convention Secretariat, to enhance the capacity in monitoring and control of the importation and exportation of plastics (including pellets, products and waste) containing POPs, and reporting to the Stockholm Convention, Basel Convention and Bamako Convention.

§ Develop training materials and conduct training towards informal collectors and recyclers for better segregation and disposal

##### **Output 4.3 Regional and global collaboration established and strengthened**

§ Establish and strengthen collaboration at regional level and global level on reducing pollution from plastics containing POPs, by organizing events/dialogues with other countries from Africa and other regions (e.g., EU countries with experience on CE and ESM), international producers, civil society groups working on chemicals of concern and plastic pollution (e.g., IPEN), international organisations (e.g., BRS Secretariat, SAICM).

§ Experience and learning of the project will be shared to all African countries through AMCEN and its Secretariat. The project will also enhance ongoing efforts with active partners in African region and UNEP-led programmes and UNEP secretariats, such as AMCEN, Partnership for Action on Green Economy (PAGE), Switch Africa Green, Global Plastic Action Partnership (GPAP), Platform for Accelerating the Circular Economy (PACE), African Circular Economy Alliance, African Circular Economy Network, and Ellen MacArthur Foundation, Green Growth Knowledge Platform and SAICM Knowledge Platform for knowledge sharing and capacity development.

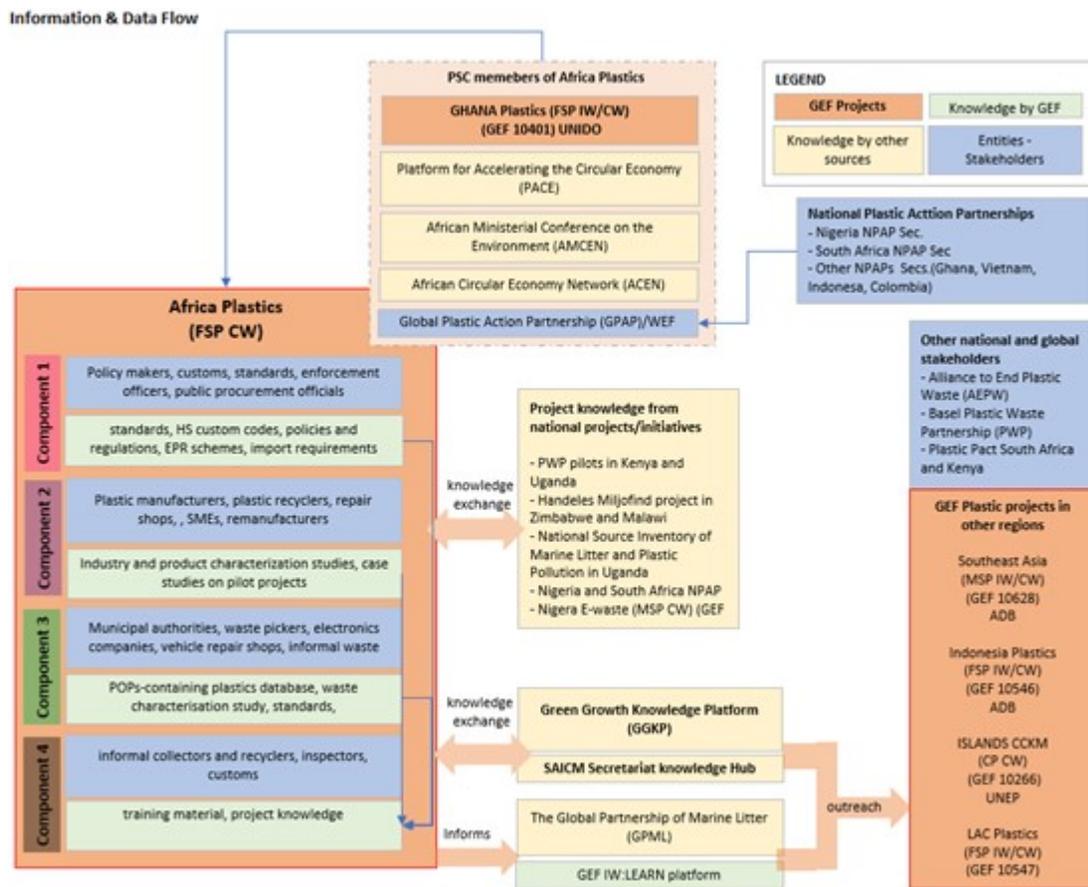
§ Develop monitoring indicators, methodologies and long-term monitoring plan for progress monitoring of problematic plastic products and fractions that contain hazardous chemicals, and ensure that regional and global plastic management initiatives adequately recognize this particular type of problematic plastics.

As described above, knowledge management will be organized through this component at national and regional/global levels. During the PPG the project communication strategy will be developed for both levels, and key target audiences will be further identified and confirmed based on stakeholder analysis (see stakeholder section for stakeholders identified to be engaged for now) and knowledge mapping. Women's perceptions and baseline knowledge will be mapped and assessed to ensure the project knowledge and communication objectives and activities are appropriately targeted. See Figure 4 for the initial knowledge management framework, to be further elaborated during PPG phase.

At national level, the project will invest in communications campaigns to increase awareness on regulations and promote compliance by industry and importers. Project activities will inform government regulatory and enforcement agencies of new policy measures and motivate officials to ensure the delivery of policy measures in the field. National knowledge strategies will include national capacity assessments to ensure that communications and knowledge management are targeted towards specific national stakeholders and their specific needs to facilitate behaviour change and policy shifts. (Outputs 4.1 and 4.2)

Project regional activities will coordinate management, dissemination, and scaling-up of knowledge, experiences, and results to achieve the overall project objective. Communication materials (such as press release, videos, web stories) and relevant dissemination plan (media, conference, high-level events) will be developed to promote the visibility and progress of the project and to encourage replication of successful approaches within the continent. Lessons learnt and best practices will be documented and communicated to key audiences to, such as the AMCEN network of ministers and governments; and industry alliances including ACEN and African secretariats of the GPAP in Nigeria and Ghana. The global outreach strategy will include a number of indirect audiences on plastic marine litter and international waters, with key project results being exchanged with both IW:LEARN and the Global Marine Litter platform. (Outputs 4.1 and 4.3)

*Figure 4 – Knowledge management data flow*



Channels for knowledge exchange at the regional and global levels will be the following:

§ The Green Growth Knowledge Platform (GGKP) is the world's largest policy platform dedicated to managing and sharing knowledge at the nexus of economics and the environment. Partnering with the GGKP will provide the project with a distinct identity while also benefitting from the GGKP's existing knowledge management system including case studies, good practices, learning materials and publications. The GGKP platform has also been used by many other projects and programmes in the UNEP GEF C&W portfolio and thus the projects knowledge material can in turn be used in these other projects and programmes and vice versa.

§ The SAICM knowledge platform was developed by the GEF SAICM project to enhance the dissemination of relevant knowledge to stakeholders working on chemicals of concern. The knowledge products related to chemicals of concern will be shared on this platform.

§ The GPML Digital Platform, a multi-stakeholder, mostly open-source platform that compiles and crowdsources different resources, integrates data and connects stakeholders to guide action towards the long-term elimination of marine plastics and plastic pollution. When appropriate, elements of this project will also be linked to this platform.

§ Project Steering Committee observers will be invited from relevant African initiatives (notably AMCEN, GPAP and ACEN Secretariats; and GEF project on plastics in Ghana), to ensure closer and more proactive engagement of these key regional stakeholders. AMCEN will also further promote knowledge sharing through their website, the AMCEN meetings, national AMCEN focal points and other AMCEN-related events. This also includes their online platform on the African

Green Stimulus Programme, which is an innovative African-led initiative to support the continent's recovery in a sustainable manner, to the devastating socio-economic and environmental impacts of the Covid-19 pandemic. The online platform includes a user interface, administrative portal as well as comprehensive information on the portfolio of projects and programmes within each priority area of the Stimulus Programme to ensure that the programme is dynamic and interactive and that it can be accessed publicly.

Throughout the project's knowledge exchange, gender sensitive communication principles will be taken into account. Knowledge products will be developed and reviewed by all genders, gender sensitive language and gender balanced images will be used highlighting women as change agents, and gender context and content will be sourced from reliable references.

The above described intervention is expected to achieve GEBs through four main intervention pathways:

1. Enabling environment: by introducing standards and policies such as import standards and age limits for vehicles, ROHS standards for electronics, and monitoring of chemical and plastic imports the governments will avoid future build-ups of hazardous waste streams. The quantitative estimates of GEBs for these streams have been estimated based on NIP updates and based on a timeline of three years project + 5 years post project.
2. Business innovation in the plastic manufacture and production sectors to reduce the use of POPs additives in products. This component of the GEBs is the least well quantified due to the lack of adequate data on import of either POPs additives or pellets or resins treated and potentially containing POPs. The quantitative estimate is therefore based on the percentage ranges of the use of different additives in different polymers (mostly PVC and PBDEs) with the quantities of production of those polymers reported by countries. This estimate is likely to be significantly revised during PPG when more detailed domestic production & import surveys and sampling will be conducted.
3. Market and economic instruments to reduce demand and purchase of priority products, including via procurement policies, eco-labels and standards. These interventions will create a general promotion of alternative, circular economy options and businesses, thereby reducing POPs and contributing to the transition of the economy towards a sustainable non-toxic pathway.
4. Take-back and recycling through setting up Extended Producer Responsibility and building waste management systems. These will ensure the POPs presented in existing products and waste streams will be removed from the circularity of product value chain. As this project focuses primarily on upstream intervention, the work on recycling and ultimate hazardous waste disposal will be achieved through in-kind contribution and co-finance from relevant stakeholders and projects.

For each of the five project countries, there will be 1800 beneficiaries (900 F+ 900 M). The beneficiaries will include 1) e-waste and end-of-life vehicles collectors and recyclers benefiting from the improvement of ESM of plastic waste containing POPs (Outputs 2.2 and 3.2) and campaigns and training towards informal collectors and recyclers for better segregation and disposal (Output 4.2); 2) local people living near dumpsites or affected by dumpsites benefiting from banning the open burning of plastics in dumpsites (Output 3.2); 3) customs/inspectors benefiting from the training on monitoring and control of the importation and exportation of plastics containing POPs (Output 1.2). Given the existing context of gender inequity in the project countries, it might be necessary to consider targeting more women as direct beneficiaries of the project in order to achieve parity in beneficiaries as planned.

Co-benefits will include reduction of uPOPs through improved segregation and management of plastics (including single use and household plastics that are not in scope for POPs content); and reduction in GHG emission due to avoidance of plastics being burnt and recycling of plastics and metals as a result of improved waste management from policy and business action. More detailed quantification will be done as part of the PPG phase.

With the adoption of new candidate POPs the need for the plastic and other industries to be able to scale up and accelerate actions to replace chemicals is paramount. The regional approach will allow each country to develop its own specific set of regulatory and economic instruments, so there will be a diversity of approaches available matching different existing contexts (e.g. actions already taken on plastics, POPs, as well as the size and nature of the industrial development). This will support scale up since a comparative analysis will be possible for other countries.

#### **Coordination and Cooperation with Ongoing Initiatives and Project.**

## Does the GEF Agency expect to play an execution role on this project?

If so, please describe that role here. Also, please add a short explanation to describe cooperation with ongoing initiatives and projects, including potential for co-location and/or sharing of expertise/staffing

Possible project coordination with projects and initiatives at global, regional, and national level are described below. In section 4 under Appendix 1, these are highlighted in blue. More specific coordination and cooperation modalities will be further investigated during the PPG.

At global level the project will coordinate with other initiatives through the regional steering committee and knowledge management component. Coordination modalities will be adapted to each partner but may include regular updates to co-financers or attendance as members in the steering committee, joint delivery of pilot projects and project activities where relevant and sharing information through the GEF KM and other platforms. As highlighted in the project rationale and in Appendix 1, global partners to be particularly engaged include:

- Plastic industry partnerships: The Alliance to End Plastic Waste and particularly its projects in the African region, and the use of the PRISM data platform. The WEF-led Global Plastic Action Partnership (GPAP) and Nigerian and Ghana National Plastic Action Partnerships. The PAGE Africa Circular Economy Network (ACEN) connects different case studies in circular economy in Africa, publications and organises online training events; as well as with the private sector for developing circular business solutions. In 2022, the network is planning to host its first pan-African conference on the circular economy which will be attended to further inform the project design.
- Governmental initiatives: the African Ministerial Conference on the Environment AMCEN Secretariat (hosted by UNEP) will be the main regional governmental partner in coordinating policies, raising political visibility and awareness of CE among governments, promoting CE and disseminating best practices and knowledge, and organizing capacity development activities, as a sub-committee of the specialized technical committee (STC) on agriculture, rural development, water and the environment of the African Union Commission.
- UNEP and international partners: The Global Partnership on Marine Litter (GPML) including accessing data on chemicals in plastics, sourced from their platform. Other platforms include the GGKP platform, the SAICM knowledge platform, and PACE. Close coordination will be established with the BRS Secretariat particularly around their Basel Plastic Waste Partnership working groups and pilot projects; and the project on Chemicals and Plastics Governance on plastic waste and POPs.
- Other GEF plastics projects as identified in the baseline (e.g., Indonesia, Asia and the Pacific and LAC projects in the IW and CW focal areas and the UNIDO Ivory Coast project), aiming to consolidate GEF experience and collaboration possibly through the attendance of project steering committees as observers, and the development of a joint knowledge product on global/ cross regional approaches. Within the region, cooperation with the UNIDO Ghana project will be closer for example directly learning from their pilot projects, and with the UNEP Med Programme to share data and lessons on the prevention of new POPs in the building materials and PVC industries (Lebanon, Morocco and Tunisia).

At national level the project intends to coordinate with the most relevant ongoing initiatives listed in Appendix 1. Through this coordination, the project will be able to identify gaps in the current interventions and possible paths for joint interventions, as well as build on the past executed work.

- PWP pilot project in Kenya: the project will especially coordinate on the EPR approach on a non-toxic circular economy and the financial funding mechanisms.
- GPAP in Nigeria and South Africa: National Plastic Action Partnerships (NPAPs): the project will build on the implemented GPAP model in Nigeria and South Africa. During the PPG past, current and future activities and cooperation/coordination opportunities will be identified. The NPAP will be able to participate in the National Steering Committees in order to coordinate activities.
- Nigeria e-waste project (GEF ID 10141): the project will coordinate on the work done by the e-waste project and will build on all lessons learnt, experiences, and knowledge products produced.
- Small Grants Programme in Nigeria: especially the inventory work and stakeholder mapping will be of importance during the project design and implantation of the Africa plastics project.

- The South Africa and Kenya Plastics Pacts: the project will work with its stakeholders on different types of interventions that reduce hazardous plastic waste in the countries.
- PWP pilot project in Uganda: the data collected under this project will be used during project design and implementation. This project will further coordinate on the capacity building carried out in this project.
- National Source Inventory of Marine Litter and Plastic Pollution in Uganda: the project will further support the implementation of the action plan developed under this project and its inventory work will be used for the project's design and implementation.
- The Handelens Miljofond project in Zimbabwe and Malawi: the experiences, lessons learnt, established inventory, capacity building sessions and knowledge outputs of this project's pilots will inform project design and implementation.

During the PPG, the specific existing knowledge sharing mechanisms and flows between these initiatives and projects will be identified and mapped to ensure and establish an efficient knowledge sharing system that allows all to coordinate and cooperate where relevant. In terms of gender mainstreaming, lessons learnt from active and closed projects will inform the project development and collaboration on gender mainstreaming opportunities will be identified. Both national and regional partners will be requested to share gender-related information or approaches that are gender-sensitive/responsive, target men and women differently, and are based on accurate gender analyses, even if they are only peripherally relevant, i.e. industrial development projects in different industries, or social development projects on women's employment or access to finance in different sectors.

## Core Indicators

### Indicator 6 Greenhouse Gas Emissions Mitigated

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO <sub>2</sub> e (direct)	37612.2	0	0	0
Expected metric tons of CO <sub>2</sub> e (indirect)	0	0	0	0

### Indicator 6.1 Carbon Sequestered or Emissions Avoided in the AFOLU (Agriculture, Forestry and Other Land Use) sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO <sub>2</sub> e (direct)				
Expected metric tons of CO <sub>2</sub> e (indirect)				
Anticipated start year of accounting				
Duration of accounting				

### Indicator 6.2 Emissions Avoided Outside AFOLU (Agriculture, Forestry and Other Land Use) Sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO <sub>2</sub> e (direct)	37,612.2			
Expected metric tons of CO <sub>2</sub> e (indirect)				
Anticipated start year of accounting	2024			
Duration of accounting	5			

Indicator 6.3 Energy Saved (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Total Target Benefit	Energy (MJ) (At PIF)	Energy (MJ) (At CEO Endorsement)	Energy (MJ) (Achieved at MTR)	Energy (MJ) (Achieved at TE)
Target Energy Saved (MJ)				

Indicator 6.4 Increase in Installed Renewable Energy Capacity per Technology (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Technology	Capacity (MW) (Expected at PIF)	Capacity (MW) (Expected at CEO Endorsement)	Capacity (MW) (Achieved at MTR)	Capacity (MW) (Achieved at TE)

Indicator 9 Chemicals of global concern and their waste reduced

Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)
34.14	0.00	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)
Hexabromocyclododecane (HBCDD)	1.56			
Decabromodiphenyl ether (commercial mixture, c-decaBDE)	32.58			

**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)

**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)**

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**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)**

5			
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**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)**

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**Indicator 9.6 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)**

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**Indicator 9.7 Highly Hazardous Pesticides eliminated**

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

**Indicator 9.8 Avoided residual plastic waste**

Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)
15,045.00			

**Indicator 10 Persistent organic pollutants to air reduced**

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)
29.46			

**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)

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**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)

**Indicator 11 People benefiting from GEF-financed investments**

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
<b>Female</b>	4,500			
<b>Male</b>	4,500			
<b>Total</b>	9000	0	0	0

**Explain the methodological approach and underlying logic to justify target levels for Core and Sub-Indicators (max. 250 words, approximately 1/2 page)** GEF Core Indicator 9: the target on reduction of POPs arises from the following two chemicals: 32.58 tonnes of Polybrominated diphenyl ethers (PBDEs) will be prevented during the project implementation phase, by developing and implementing regulations and standards to limit the presence of PBDEs in the seat and floor materials targeting used vehicles imported into five countries of Africa, as well as PBDE in electronics products (screens, monitoring, fridges, and IT products placed in the five African markets). This will support the adoption of upstream and preventative interventions to reduce the use of POPs from source (import of products into Africa), especially on the age limits of imported used vehicles and the content of PBDEs in imported electronics products, which have higher concentration of PBDEs in cars made prior to 2014. The estimated GEBs are based on the assumption that the project can influence 5% of annual reduction for the imported used vehicles produced

before 2014, and 1% of annual reduction for the electronics products containing PBDEs into the five countries during three years' time (the interventions will result in a reduction after 2 years into project implementation), to reduce the content of PBDEs in relevant products. As the project will have a lasting impact after completion, an additional 2 years after the project implementation phase are added for the total reduction (54.292 tonnes of PBDEs). The selection of the vehicle and electronics products as the targeted sectors for interventions is based on the existing NIP analysis in five countries. During the PPG phase, more sectors will be included after national baseline data of POPs in products are collected, such as building and construction materials, toys, and food packaging. The POPs reduction target is also based on avoiding the presence and release of POPs emissions from 1.56 tonnes of HBCDs in imported used vehicles. The quantity is based on the amount of HBCD present in the seat and floor materials of used vehicles imported into five countries of Africa, and the intervention is expected to lead to a 5% annual reduction of HBCDs in car seats for the in the last three year of project implementation . As the project will have a lasting impact after completion, an additional 2 years after the project implementation phase are added for the total reduction (2.6 tonnes of HBCDs in imported used vehicles). The potential GEBs on POPs reduction will be further quantified during the PPG phase, after assessment of domestic manufacture and other plastic industries, including PVC producers and vehicle manufacturers in Nigeria and South Africa. GEF Core Indicator 10: for the targets on reduction of uPOPs and greenhouse gas emissions, policies on Extended Producer Responsibility and policies to ban burning of plastics will prevent plastic wastes being open burned (e.g. electronics and e-waste, tyres, PVC cables, and burnt in backyards and dumpsites). It is expected that relevant policies can lead to 0.5% of reduction in open burning plastics from electronic products, as well as 10,000 tonnes of used tyres from vehicles in the five countries during the last 3 years of the project duration, which results in the reduction of 29.46 grams of toxic equivalent gTEQ. As the project will have a lasting impact after completion, an additional 2 years after the project implementation phase are added for the total reduction (49.1 grams of toxic equivalent gTEQ). GEF Core Indicator 6: it is estimated that 15,045 tonnes of plastics will be avoided being burnt from project interventions, and it will result in the reduction of CO2 emission of 37,612.2 tonnes. As the project will have a lasting impact after completion, an additional 2 years after the project implementation phase are added for the total reduction (25,075 tonnes of plastics will be avoided being burnt from project interventions, and it will result in the reduction of CO2 emission of 62,687 tonnes) There is also CO2 avoidance from recycling the metal components of electronics and vehicles in this project, and such benefit will be further assessed in the project PPG phase. GEF Core Indicator 11: in section B (project description), an explanation on how the target for core indicator 11 was calculated is presented. GEF Core Indicator 5: there is no significant co-benefit for marine litter reduction, due to the fact that plastics in durable goods (electronics and vehicles) are generally not disposed of in waterways and the ocean, and they usually end up in landfill and dumpsites when not treated properly.



## Risks to Project Preparation and Implementation

Summarize risks that might affect the project preparation and implementation phases and what are the mitigation strategies the project preparation process will undertake to address these (e.g. what alternatives may be considered during project preparation-such as in terms of consultations, role and choice of counterparts, delivery mechanisms, locations in country, flexible design elements, etc.). Identify any of the risks listed below that would call in question the viability of the project during its implementation. Please describe any possible mitigation measures needed. (The risks associated with project design and Theory of Change should be described in the "Project description" section above). The risk rating should reflect the overall risk to project outcomes considering the country setting and ambition of the project. The rating scale is: High, Substantial, Moderate, Low.

Risk Categories	Rating	Comments
Climate	Moderate	<p>Decreased local support due to shifted priorities Impact: M; Likelihood: L; Link components: All It is expected that countries' political priorities may shift to recovery from the pandemic, and as governments increasingly address climate change impacts. To ensure continued support, activities will be validated with the national stakeholders, and the project will focus on communication that underlines the long-term benefits and business opportunities resulting from of its proposed activities (see also risk mitigation under the social risks). Climate change impacts are more likely to increase rather than decrease the need for sustainable chemicals management. Nonetheless, the impacts of climate change will be considered in the development and implementation of project and strategies for sustainable chemicals management in the plastics sector. Delays in project outputs Impact: M; Likelihood: M; Link components: All Climate changed impacts and COVID-19 restrictions may cause delays in project development and implementation. Possible restrictions to control the spread of the COVID-19 virus will be considered in the project development/execution planning and timeline. The timeline will also consider the probability of climate disasters e.g., floods delaying the project execution. Infrastructure damage due to increased flood frequency Impact: L; Likelihood: L; Link components: All Flood frequency will increase in all project countries due to climate change. Flooding can also be aggravated due to plastic pollution blocking drainage systems. Through project implementation, the circular economy approach for plastics will be applied by stakeholders along the value chain. Solutions to plastic waste collection and recycling will also take into account the risks of floods when designing the waste management practices. Project interventions that reduce plastics generation will reduce the risks of plastics aggravating floods. Reductions of GHG emission caused by unsustainable production and consumption of plastics will be achieved and the efficiency of resources used by the plastic sector will be increased. The project development phase will make sure that the project will lead to the sustainable production of plastics and sound plastic waste management practices implemented through the project will lead to increased resilience against climate change impacts.</p>

<b>Environment and Social</b>	Moderate	Gender inequity at society and policy levels hinder the achievement of gender objectives Impact: M; Likelihood: M; Link components: All The project preparation will make sure that the Gender Action Plan will be closely monitored by a dedicated person/ organization. Gender trainings (including technical trainings delivered by female trainers) and gender-sensitive consultations and communications will contribute to shifting gender stereotypes and perceptions of women in different roles.] Occupational health and safety and working conditions at pilot project sites create risks of exposure of workers and/or unequal working conditions for women and men Impact: M; Likelihood M; link component 2 and 3 The project will prepare a labor and working condition plan with the related business people and the workers involved in the pilot projects (C2) and for the development of ESM approaches and recommendations (C3).
<b>Political and Governance</b>	Moderate	Changes in governments and country personnel to persons with little awareness and buy-in to the project Impact: L; Likelihood: L; Link components: C1 Information on the project will be widely distributed to (multi-party) political stakeholders. Political support is insufficient to drive strong engagement from private sector and/or key government actors. Policies are only developed but not implemented or without practical solutions Impact: M; Likelihood: M; Link components: C1 Low policy implementation and enforcement will weaken the incentive structure for all other stakeholders to take actions and political support is needed to drive private sector engagement. The project will engage with government stakeholders throughout the PPG and implementation phase to ensure that the countries' political buy-in and national priorities are considered. National focal points will be regularly updated on the project progress to guarantee continued support.
<b>Macro-economic</b>		
<b>Strategies and Policies</b>		
<b>Technical design of project or program</b>	Moderate	Inadequate data collection on POPs use. Impact: M; Likelihood: M; Link components: All Collection of data on POPs use in the plastics sector has proven difficult. The project will work with and engage all stakeholders during the PPG and implementation phase to collect data.
<b>Institutional capacity for implementation and sustainability</b>	Moderate	The project partners do not sustain the project activities and benefits Impact: M; Likelihood: M; Link components: All The project will involve global actors and associations which have been active on this issue for over the last years to create a sustainable solution. During the project preparation phase, workshops will be organised with key stakeholders to assess they needs and concerns and involve them in the project design (see section 2 on stakeholders). The project will disseminate the gains and successes of the project activities, bringing visibility to their efforts and progress, and stimulating continuity and replication during project implementation.

<b>Fiduciary: Financial Management and Procurement</b>		
<b>Stakeholder Engagement</b>	Moderate	<p>Stakeholders do not engage fully, resulting in not adequately addressing the project priorities nor achieving the desired outcomes. Impact: M; Likelihood: M; Link components: C2 (see also above) Risks under Sustainable business models and PPPs will be established to ensure long-term planning and attract investors. Corporations will be engaged early-on in dialogues that highlight their opportunity to be proactive in constructing solutions prior to inevitable mandates by government. Should this approach cease to work the project will look for the appropriate means to apply pressure to resistant companies. The project will continuously work closely with both the authorities and a range of private sector operators to assist in identifying appropriate innovative approaches and to facilitate the identification of appropriate financing mechanisms to encourage replication. This will be supported by a proactive strategy to highlight achievements within and between the countries involved. Specific strategies for engagement with direct project beneficiaries (pilots of POPs phaseouts in plastic) will be further developed during the PPG phase. Failure of informal waste sector to participate Impact: M; Likelihood: M; Link components: C3 The project will proactively engage with the informal sector to highlight the benefits to their operations from circular economy approaches and identify their potential roles in this project, while ensuring their livelihoods and health are improved. Strategies and policies to formalize the sector will be informed by global experiences and recommendations to avoid loss of employment among men and women who are currently informal.</p>
<b>Other</b>	Moderate	<p>COVID-19 Restricted travel Impact: M; Likelihood: M; Link components: All Lockdowns and restricted travel measures continue since the COVID-19 pandemic hit. Meetings, workshops, and consultations during the PPG and project implementation will be held virtually as much as possible. Closing of recycling businesses Impact: M; Likelihood: L; Link components: C3 Due to restrictions related to the pandemic, waste collection and recycling may be challenged. It will be ensured that health and safety protocols will be followed. Temporary suspension of policies on banning of SUPPs/ reversal of initiatives that supported reusables due to the COVID-19 pandemic Impact: M; Likelihood: L; Link components: C2 Policies that promote the use of reusables and the ESM of SUPs will be promoted during the project execution as long as they align with the latest recommendations to halt the spread of the COVID-19 virus. Increased of plastic waste due to increased use of single use plastic products Impact: M; Likelihood: M; Link components: C2 Awareness raising of the public will encourage the use of reusables where proven to be effective against the spread of the virus and proper disposal where applicable. Decreased local support due to shifted priorities &amp; Delays in project outputs (see Climate section)</p>
<b>Financial Risks for NGI projects</b>		
<b>Overall Risk Rating</b>	Moderate	<p>The above described mitigation measures will be implemented during the project preparation process to ensure that the project is design in the best way to mitigate these risks. At CEO Endorsement request, the risk rating will be re-evaluated.</p>



### C. ALIGNMENT WITH GEF-8 PROGRAMMING STRATEGIES AND COUNTRY/REGIONAL PRIORITIES

Describe how the proposed interventions are aligned with GEF- 8 programming strategies and country and regional priorities, including how these country strategies and plans relate to the multilateral environmental agreements.

Confirm if any country policies that might contradict with intended outcomes of the project have been identified, and how the project will address this.(max. 500 words, approximately 1 page)

The project is aligned with GEF 8 programming and objectives 1, 2, and 3 under the Chemicals and Waste Focal Area. Through promoting circular economy approaches, implementing upstream measures, and tackling the chemicals and waste at end of life, the project will prevent plastic products and waste containing POPs from entering uncontrolled dumps and/or material recovery supply chains. The project takes a holistic approach to design solutions along the whole life cycle of plastics. The project is supporting the shift from a chemical-based approach to a sector based approach by focusing on the plastics sector and its value chain (mainly electronics, ELV and construction materials) and all hazardous chemicals included in this sector. It will support the three Chemicals and Wastes Objectives by adopting and implementing policy and economic instruments that aim to reduce import, production and consumption of plastics containing POPs under Component 1 (supporting Objective 1 and 2), by improving design and manufacture of plastic products to replace problematic products/fractions with more sustainable alternatives under Component 2 (supporting Objective 2), by managing plastic wastes containing POPs in an environmentally sound manner under Component 3 (supporting Objective 1 and 3), and by enhancing capacity in applying circular economy practices to reduce pollution from plastics containing POPs under Component 4 (supporting Objective 1). The proposed actions address problematic products and polymers that are known to contain POPs and contribute towards achieving the GEF-8 target of eliminating these and preventing their entry into the global environment. Promoting a circular economy will improve production, consumption, and environmentally sound disposal patterns, and eventually reduce plastic leakage and the release of chemicals of concern to the environment. It will also contribute to achieving GEF-8 targets on Green House Gas emissions.

Currently, plastic is at the top of the international agenda for waste management. Recent meetings of the Conferences of the Parties to the Basel and the Stockholm Conventions “encouraged regional and coordinating centres to work, under the Convention, on the impact of plastic waste, marine plastic litter, microplastics and measures for prevention and environmentally sound management”. Mixed plastic waste was listed in the Basel Convention Annexes as hazardous waste to control during international trade<sup>[1]</sup>. The global problem of increasing plastic waste and the associated pollution, marine litter, biodiversity and human health effects were recognised at each of the first four meetings of the United Nations Environment Assembly (UNEA 4). UNEA 4 addresses the analysis of voluntary commitments targeting marine litter and microplastics pursuant to Resolution 3/7 (UNEP/ EA.3/Res.7.). The project is relevant to the Basel Convention framework for plastic waste (introduced in May 2019), to ensure global and regional trade in plastic waste is more transparent and better regulated, whilst also ensuring that its management is safer for human health and the environment.

Addressing plastic pollution will contribute to the achievement of SDG 3 on Good Health and Well-being, SDG 12 on Sustainable Consumption and Production, SDG 13 on Climate Change, and SDG 14 on Life Below Water.

At national level, the project addresses policy priorities as follows. During the PPG and project implementation, further engagement of the UN Country Teams will be sought in order to better link the project with national development priorities as they are being implemented by the UN wider system organizations with governments.

**Nigeria:**

The project will support the implementation of the EPR programme instituted by the 2019 National Environmental Sanitation and Waste Regulation, for electronics and battery or the food and beverage industry, and the 2020 National policy on plastic waste management, for plastic waste. Furthermore, the latter policy will also be supported by the project focus on the characterization of plastic waste and on the investments in collection, segregation and disposal technologies, as well as complemented by the development and implementation of import restrictions to plastic waste. Lastly, the output on the development of inventories on plastics containing POPs will facilitate the enforcement of the Nigerian National Environmental (hazardous chemicals and pesticide) Regulations of 2014 banning DDT and restricting other POPs. NIP updating will also support these efforts.

#### **South Africa:**

The project will support the implementation of the ESM of waste as aimed by the South African 2008 Waste Act, as well as the definition of targets for recycling and of a plan for effective waste management – both key points of the 2011 National Waste Management Strategy – for plastic waste containing POPs based on an adaptation of best practices on the South African context. It will advance the EPR system envisioned by the 2020 Amendment of the Regulations and Notices Regarding Extended Producer Responsibility to the 2008 Waste Act by supporting its implementation for plastic waste containing POPs.

#### **Uganda:**

The project component on circular economy innovations and practices will mainly address the National Environment Act of 2019 by applying its guiding principle on eco-design of products and reduction of plastic consumption, while the component on the ESM of plastic waste, specifically the development and improvement of ESM strategies with a focus on plastic waste containing POPs and the transfer of technologies, will inform an adequate framework for industrial recycling. The National Environment (Waste Management) Regulations of 2020 will be supported through the project work in facilitating transfer of technologies for better segregation and disposal of plastic waste. Lastly, both policies will benefit from the project's inventory activities and mapping targeting POPs in plastics in their goal to regulate the use of POPs and banning problematic and unnecessary plastics.

#### **Zimbabwe:**

The project will further the application of the Environmental Management (Hazardous Waste Management) Regulations of 2007 by developing inventories on POPs used in plastics product so that the licensing and fees schemes for the management of waste containing hazardous substances can be adequately designed. This aspect will also be beneficial to the implementation of the 2018 Environmental Management (Control of Hazardous Substances) (General) Regulations which classifies and regulates the licensing, transportation, use and associated fees for hazardous substances, including PCBs and DDT. Moreover, the project will support the implementation of the 2014 Integrated Solid Waste Management Plan by ensuring the involvement of the informal sector in the waste management system, as well as complementing the 2007 Environmental Management (Effluent and Solid Waste Disposal) Regulations and the Environmental Management Act [CAP20:27] with procedures and technologies for the collection, separation and segregation of plastic waste.

#### **Kenya:**

The project will support the implementation of the Environmental Management and Co-Ordination Act (Cap. 387) of 2012 through the development of a baseline as well as the characterization of plastic waste for ESM, both facilitating the regulation of toxic and hazardous materials and the ban of dangerous disposal of waste as envisioned by the Act. Furthermore, the component on the ESM of plastic waste containing POPs will also focus on the ban of open burning of plastics and technologies for better segregation and disposal which will ultimately support the achievement of the National Sustainable Waste Management Policy of 2020 which aims to progressively phase out open dumpsites. The 2019 Draft Environmental Management and Coordination (Toxic and Hazardous Chemicals and

Materials Management) Regulations, regulating and banning certain POPs, will be supported by the project's inventory activities and mapping targeting POPs in plastics. Lastly, the provided policy recommendations and knowledge shared in the context of this project can be used to inform the development of EPR schemes and eco-labelling, as proposed by the Draft Bill on Sustainable Waste Management of 2021.

The proposed project directly responds to priorities and recommendations by the project countries' regional economic communities (RECs) (ECOWAS, EAC, and SADC) and the African Ministerial Conference on the Environment (AMCEN). In 2019, AMCEN recommended to adopt circular economy to address plastic pollution from a life cycle perspective, while ensuring coherence and coordination with activities undertaken by existing regional and international instruments. EAC passed a Polyethylene Materials Control bill and ECOWAS emphasised the need for enabling policy and financial frameworks in support of circular business practices while restricting the import of vehicles according to age limits. SADC is increasingly focused on plastic recycling and recognized that the open burning of plastics generates toxic fumes further posing health risks. Please refer to section 2 in Appendix 1 for more information on the above. As plastic pollution, associated health risks, and eco-innovation have been identified as areas that need action in these RECs, this project can provide them with the needed tools, lessons learnt, and best practices.

None of the reviewed reports or assessments mention any priorities related to gender.

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[1] <http://www.basel.int/Implementation/Plasticwaste/Amendments/Overview/tabid/8426/Default.aspx>

## D. POLICY REQUIREMENTS

Gender Equality and Women's Empowerment:

We confirm that gender dimensions relevant to the project have been addressed as per GEF Policy and are clearly articulated in the Project Description (Section B).

Yes

## Stakeholder Engagement

We confirm that key stakeholders were consulted during PIF development as required per GEF policy, their relevant roles to project outcomes and plan to develop a Stakeholder Engagement Plan before CEO endorsement has been clearly articulated in the Project Description (Section B).

Yes

**Were the following stakeholders consulted during project identification phase:**

Indigenous Peoples and Local Communities:

Civil Society Organizations: Yes

Private Sector: Yes

**Provide a brief summary and list of names and dates of consultations**

During the project identification phase, the national counterparts have been consulted through virtual meetings and templates with data requests including national needs. The below table presents the consultations with and in the project countries that took place during the PIF. The national workshop on the transposition and domestication of the Basel Convention plastics amendments in Nigeria in January 2022 provided an opportunity to identify Nigerian stakeholders and similar events will be organized and/or attended during the PPG for other countries.

*Table 1. Consultations with and in the project countries during the PIF.*

Project country	Date/ Attendees	Topic
Nigeria	14 December 2021: Consultation with Ministry of Environment	Existing regulations, stakeholders, and ongoing initiatives,
	27 January 2022: Nigeria Stakeholders Engagement Workshop (organised by NESREA*, SRAD EV and sponsored by GAIA)	Strengthening Transposition and Domestication of Basel Convention Amendment in Nigeria
	1 June 2022: Consultation with NESREA* and SRADev Nigeria	Types of plastics used, main sectors consuming plastics domestically, control of chemical substances in plastics, and ongoing initiatives for plastic lifecycle management

<p>South Africa</p>	<p>11 January 2022: Consultation with Minister of Forestry, Fisheries</p> <p>3 June 2022: Consultation with Green Cape</p> <p>15 June 2022: Consultation with Plastics SA</p>	<p>Priorities, existing plastic initiatives, timeline and next steps</p> <p>Types of plastics used, main sectors consuming plastics domestically, control of chemical substances in plastics, and ongoing initiatives for plastic lifecycle management</p>
<p>Uganda</p>	<p>21 January 2022: Consultation with National Environment Management Authority</p> <p>27 June 2022: Consultation with National Environment Management Authority</p>	<p>Priorities, existing plastic initiatives, timeline and next steps</p> <p>Types of plastics used, main sectors consuming plastics domestically, control of chemical substances in plastics, and ongoing initiatives for plastic lifecycle management</p>

Zimbabwe	<p>12 January 2022: Consultation with Ministry of Environment</p> <p>January – June 2022: In-country consultations with Ministry of Environment, Climate and Hospitality Industry, Environmental Management Agency, Ministry of Health and Child Care, producers of plastics, city councils, plastic recyclers, Industry and Business Associations such as the Business Council for Sustainable Development (BCSDZ), consultants who drafted Zimbabwe's NIP, and consultants working on the Chem Obs project</p> <p>12 June 2022: Consultation with Environment Management Agency</p>	<p>Priorities, existing plastic initiatives, timeline and next steps</p> <p>Input and consultations from key stakeholders regarding the interventions proposed in the PIF. Input from key stakeholders was also noted during workshops held under an ongoing project titled "Strengthening knowledge and capacity to prevent and reduce releases of plastic waste in Zimbabwe &amp; Malawi"</p> <p>Types of plastics used, main sectors consuming plastics domestically, control of chemical substances in plastics, and ongoing initiatives for plastic lifecycle management</p>
All project countries	14 June 2022: Side meeting during BRS COP with country representatives	Consultations on plastic use, ongoing initiatives, and project structure.

\* NESREA = National Environmental Standards and Regulations Enforcement Agency

(Please upload to the portal documents tab any stakeholder engagement plan or assessments that have been done during the PIF development phase.)

**Private Sector**

**Will there be private sector engagement in the project?**

Yes

**And if so, has its role been described and justified in the section B project description?**

Yes

**Environmental and Social Safeguard (ESS) Risks**

**We confirm that we have provided indicative information regarding Environmental and Social risks associated with the proposed project or program and any measures to address such risks and impacts (this information should be presented in Annex D).**

Yes

**Overall Project/Program Risk Classification**

PIF                      CEO Endorsement/Approval    MTR    TE

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**Medium/Moderate**

## E. OTHER REQUIREMENTS

### Knowledge management

We confirm that an approach to Knowledge Management and Learning has been clearly described in the Project Description (Section B)

Yes

## ANNEX A: FINANCING TABLES

### GEF Financing Table

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

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Programming of Funds	Grant / Non-Grant	GEF Project Grant(\$)	Agency Fee(\$)	Total GEF Financing(\$)
UNEP	GET	Kenya	Chemicals and Waste	POPs	Grant	2,200,000	198,000	2,398,000.00
UNEP	GET	Nigeria	Chemicals and Waste	POPs	Grant	2,200,000	198,000	2,398,000.00
UNEP	GET	South Africa	Chemicals and Waste	POPs	Grant	2,200,000	198,000	2,398,000.00
UNEP	GET	Uganda	Chemicals and Waste	POPs	Grant	2,200,000	198,000	2,398,000.00
UNEP	GET	Zimbabwe	Chemicals and Waste	POPs	Grant	2,200,000	198,000	2,398,000.00
<b>Total GEF Resources(\$)</b>						<b>11,000,000.00</b>	<b>990,000.00</b>	<b>11,990,000.00</b>

### Project Preparation Grant (PPG)

**Is Project Preparation Grant requested? true**

PPG Amount (\$)

300,000

PPG Agency Fee (\$)

27,000

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Programming of Funds	Grant / Non-Grant	PPG(\$)	Agency Fee(\$)	Total PPG Funding(\$)
UNEP	GET	Kenya	Chemicals and Waste	POPs	Grant	60,000	5,400	<b>65,400.00</b>
UNEP	GET	Nigeria	Chemicals and Waste	POPs	Grant	60,000	5,400	<b>65,400.00</b>
UNEP	GET	South Africa	Chemicals and Waste	POPs	Grant	60,000	5,400	<b>65,400.00</b>
UNEP	GET	Uganda	Chemicals and Waste	POPs	Grant	60,000	5,400	<b>65,400.00</b>
UNEP	GET	Zimbabwe	Chemicals and Waste	POPs	Grant	60,000	5,400	<b>65,400.00</b>
<b>Total PPG Amount</b>						<b>300,000.00</b>	<b>27,000.00</b>	<b>327,000.00</b>

**Indicative Focal Area Elements**

Programming Directions	Trust Fund	GEF Project Financing(\$)	Co-financing(\$)
CW-1	GET	6,500,000.00	25,000,000.00
CW-2	GET	4,500,000.00	14,000,000.00

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**Total Project Cost (\$)****11,000,000.00****39,000,000.00****Indicative Co-financing**

<b>Sources of Co-financing</b>	<b>Name of Co-financier</b>	<b>Type of Co-financing</b>	<b>Investment Mobilized</b>	<b>Amount(\$)</b>
Recipient Country Government	Governments (Kenya, South Africa, Nigeria, Uganda, Zimbabwe)	In-kind	Recurrent expenditures	15,000,000.00
Private Sector	International and regional plastic producers and recyclers, chemicals companies (Alliance to End Plastic Waste, ACC, PlasticsEurope, PlasticsSA etc. )	Grant	Investment mobilized	3,000,000.00
Private Sector	Product manufacturers, importers and resellers of electronics and vehicles; importers of second-hand electronics and used vehicles into Africa	Grant	Investment mobilized	2,000,000.00
Private Sector	Industrial association and EPR organizations for electronics and vehicles (e.g. E-waste Producer Responsibility Organisation Nigeria, PetrecoZim The Food and Beverage Recycling Alliance Nigeria, South Africa Plastics Pact etc.)	In-kind	Recurrent expenditures	3,000,000.00
Others	International organizations and agencies (e.g. Basel Convention Secretariat, WEF, IUCN, GIZ, GPAP.)	In-kind	Recurrent expenditures	5,000,000.00
Others	Investment projects on municipal waste management, focusing on collection and segregation/ recycling, and environmentally sound disposal of POP containing plastics	Loans	Investment mobilized	10,000,000.00
Civil Society Organization	National and regional NGOs with campaigns and projects on plastics and waste, e.g. SRA-Dev Nigeria/IPEN	In-kind	Recurrent expenditures	1,000,000.00
			<b>Total Co-financing(\$)</b>	<b>39,000,000.00</b>

**Describe how any "Investment Mobilized" was identified**

From the private sector, international and regional plastic producers and recyclers provide grants to support the establishment of circular plastics economy, including business models favouring the circular design of packaging (including the elimination of POPs from new products), products and reuse system to

reduce plastic pollution. Industry associations and Extended Producer Responsibility organizations raise financing through the plastic levies and funds they collect from producers to support the take-back, recycling and treatment of waste at end of life, as well as safe disposal of POPs containing plastics. Municipal and national level investments into collection channels and recycling infrastructure are frequently focussed on increasing recycling rather than ensuring adequate management of hazardous components, so the project seeks to leverage such co-finance investments to ensure proper management of all chemicals.

## ANNEX B: ENDORSEMENTS

### GEF Agency(ies) Certification

GEF Agency Type	Name	Date	Project Contact Person	Phone	Email
GEF Agency Coordinator	Victoria Luque Panadero	9/15/2022	Eloise Touni	+41229178607	eloise.touni@un.org

### Record of Endorsement of GEF Operational Focal Point (s) on Behalf of the Government(s):

Name	Position	Ministry	Date	
Tanyaradzwa Mundoga	GEF Operational Focal Point, Zimbabwe	Ministry of Environment, Climate, Tourism and Hospitality Industry, Zimbabwe	9/13/2022	
Stanley Jonah	Director Planning, Research and Statistics GEF Operational Focal Point, Nigeria	Federal Ministry of Environment, Nigeria	9/2/2022	
Dr. Christopher Kiptoo	Principle Secretary GEF Operational Focal Point, Kenya	Ministry of Environment and Forestry, Kenya	10/21/2022	
Mr. Zaheer Fakir	GEF Operational Focal Point, South Africa	Department of Forestry, Fisheries, and the Environment, South Africa	9/22/2022	
Mr. Patrick Ocailap	Deputy Secretary to the treasury GEF Operational Focal Point, Uganda	Ministry of Finance, Planning and Economic Development, Uganda	9/30/2022	

## ANNEX C: PROJECT LOCATION

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

This annex is not provided yet as currently only the project countries are known. Following further baseline data collection and identification of project intervention sites within the countries during PPG, this Annex will be provided with the CEO Endorsement Request.

## ANNEX D: ENVIRONMENTAL AND SOCIAL SAFEGUARDS SCREEN AND RATING

(PIF level) Attach agency safeguard screen form including rating of risk types and overall risk rating.

### Title

[Annex D2 - COVID Screens](#)



[Annex D1 - SRIF upload](#)



## ANNEX E: RIO MARKERS

Climate Change Mitigation	Climate Change Adaptation	Biodiversity	Land Degradation
Significant Objective 1	No Contribution 0	Significant Objective 1	No Contribution 0

## ANNEX F: TAXONOMY WORKSHEET

Level 1	Level 2	Level 3	Level 4
Influencing Models	Transform policy and regulatory environment		
Influencing Models	Demonstrate innovative approaches		
Stakeholders	Private Sector	SMEs	
Stakeholders	Private Sector	Individuals/Entrepreneurs	
Stakeholders	Beneficiaries		
Stakeholders	Communications	Awareness Raising	

Capacity, Knowledge and Research	Knowledge and Learning	Knowledge Management	
Capacity, Knowledge and Research	Knowledge and Learning	Capacity Development	
Gender Equality	Gender Mainstreaming	Beneficiaries	
Gender Equality	Gender Mainstreaming	Sex-disaggregated indicators	
Gender Equality	Gender results areas	Participation and leadership	
Gender Equality	Gender results areas	Awareness raising	
Gender Equality	Gender results areas	Knowledge generation	
Focal Area/Theme	Chemicals and Wastes	Persistent Organic Pollutants	
Focal Area/Theme	Chemicals and Wastes	Unintentional Persistent Organic Pollutants	
Focal Area/Theme	Chemicals and Wastes	New Persistent Organic Pollutants	
Focal Area/Theme	Chemicals and Wastes	Waste Management	Hazardous Waste Management
Focal Area/Theme	Chemicals and Wastes	Plastics	
Focal Area/Theme	Chemicals and Wastes	Open burning	
Focal Area/Theme	Chemicals and Wastes	Best Available Technology / Best Environmental Practices	
Rio Marker	Climate Change Mitigation 1		