Sound Management of Unintentional Persistent Organic Pollutants (POPs) and Polychlorinated Biphenyl Ether (PBDEs) to Reduce their Emission from the Industrial Waste Sector

Part I: Project Information

GEF ID
9263

Project Type
FSP

Type of Trust Fund
GET

Project Title
Sound Management of Unintentional Persistent Organic Pollutants (POPs) and Polychlorinated Biphenyl Ether (PBDEs) to Reduce their Emission from the Industrial Waste Sector

Countries
Cote d'Ivoire

Agency(ies)
UNIDO

Other Executing Partner(s):
Ministry of Environment, Urban Hygiene, and Sustainable Development, Centre Ivorian Antipollution (CIAPOL)

Executing Partner Type
Government

GEF Focal Area
Chemicals and Waste

Taxonomy
Focal Areas, Chemicals and Waste, Waste Management, Industrial Waste, eWaste, Sound Management of chemicals and waste, Best Available Technology / Best Environmental Practices, Open Burning, Emissions, Disposal, Persistent Organic Pollutants, New Persistent Organic Pollutants, Uninentional Persistent Organic Pollutants, Influencing models, Transform policy and regulatory environments, Strengthen institutional capacity and decision-making, Convene multi-stakeholder alliances, Stakeholders, Strategic Communications, Communications, Public Campaigns, Awareness Raising, Private Sector, Large corporations, SMEs, Type of Engagement, Partnership, Participation, Information Dissemination, Consultation, Beneficiaries, Civil Society, Non-Governmental Organization, Academia, Community Based Organization, Local Communities, Gender Equality, Gender Mainstreaming, Sex-disaggregated indicators, Gender-sensitive indicators, Women groups, Gender results areas, Knowledge Generation and Exchange, Participation and leadership, Capacity Development, Capacity, Knowledge and Research, Innovation, Knowledge Generation, Training, Workshop, Seminar, Knowledge Exchange, Field Visit, Learning, Indicators to measure change

Rio Markers
Climate Change Mitigation
Climate Change Mitigation 0

Climate Change Adaptation
Climate Change Adaptation 0

Duration
60In Months

Agency Fee($)
505,875

A. Focal Area Strategy Framework and Program

Objectives/Programs	Focal Area Outcomes	Trust Fund	GEF Amount($)	Co-Fin Amount($)
CW-2_P3	Outcome 3.1: Quantifiable and verifiable tonnes of POPs eliminated or reduced	GET	5,325,000	67,925,204
		Total Project Cost($)	**5,325,000**	**67,925,204**

B. Project description summary

Project Objective

The objective of this project is to establish the sound management system of unintentional POPs (uPOPs) and polybrominated diphenyl ethers (PBDEs) and final disposal of possibly PBDE-contaminated Waste of Electrical and Electronic Equiment (WEEE) and End of Life Vehicles (ELV).

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
1. Legal framework and institutional capacities	Technical Assistance	1.1 Legal and institutional framework revised for the sound management of POPs, PBDEs and unintentional POPs in particular	1.1.1 Relevant POPs elements incorporated into regulatory framework, including import policies and financing system (e.g. EPR) for WEEE and ELV, on the waste management based on the gap assessment carried out during PPG 1.1.2 Institutional capacities assessed to strengthen the nation wide WEEE and ELV recycling sector, including sound management of PBDEs and uPOPs 1.1.3 Enforcement capacities enhanced, including inspection and a data tracking system 1.1.4 Awareness raised and regional knowledge-exchange among national government and municipal officials, private sector, and general public on PBDEs and uPOPs. 1.1.5 Information and sensibilisation of women and children involved in the WEEE and ELV management, especially regarding collection, dismantling and sorting, raised	GET	113,500	4,000,000

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
2. Upgrading the technical capacity for the sound management of PBDEs and reduced unintentional POPs emissions	Technical Assistance	2.1 Upgrading e-waste and end-of-life vehicle dismantling sector to meet the revised national legislative framework under component 1 and strengthen business operations	2.1.1 Baseline environmental monitoring for uPOPs and PBDEs established 2.1.2 Technical guidelines on the business operation for sound and safe e-waste and end-of-life vehicle dismantling adopted 2.1.3 Safety operation manager qualifications established at the national level 2.1.4 Training on business management operation conducted for private sector 2.1.5 (see below) 2.1.6 Reduction in emission of uPOPs and PBDEs estimated 2.1.7.Detailed mapping of the conditions of women and children working in within the sector to carry out specified training activities	GET	390,000	11,000,000

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
same as above	Investment	same as above	2.1.5 E-waste and end-of-life vehicle dismantling operators selected on a competitive basis and refurbished	GET	1,500,000	16,835,237

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
3. Establishment of business operation with sound management of plastic materials	Technical Assistance	3.1 Sound management of plastic materials from E-waste and End-of-life vehicles improved by setting up plastic recycling business operation	3.1.1 Trainings for national governments and municipalities with gender considerations conducted to develop sound mangement of plastic wastes complying with the regulation and enforcement requirement 3.1.2 Technical guidelines on BAT/BEP adopted for the sound management of plastic wastes by the waste management operators 3.1.3 Training on reduce, reuse and recycle (3R) principles and good plastic waste separation practice 3.1.4 Development of business models and selection of investors following the due diligence of the government consession policy 3.1.5 (See below) 3.1.6 (See below) 3.1.7 (See below) 3.1.8. Strengthening of women's entrepreneurship in the dismantling of WEEE and ELV	GET	325,500	8,000,000

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
same as above	Investment	same as above	3.1.5 Business operations established by private sectors working on sound management of plastic waste engaging public-private partnership modality if relevant 3.1.6 Waste management practice improved to reduce PBDEs and uPOP emissions to the environment 3.1.7. Final disposal of possibly PBDE containing plastic materials dismantled from 1,000 tons of PBDE containing waste.	GET	2,446,000	23,089,967
4. Monitoring and evaluation	Technical Assistance	4.1 Project impact properly monitored and project results evaluated	4.1.1 Project impact monitored 4.1.2 Project results evaluated	GET	300,000	1,000,000
			Sub Total ($)		**5,075,000**	**63,925,204**
Project Management Cost (PMC)						
				GET	250,000	4,000,000
			Sub Total($)		**250,000**	**4,000,000**

Project Management Cost (PMC)			
	Total Project Cost($)	**5,325,000**	**67,925,204**

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

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Amount($)
Government	Ministry of Environment, Urban Hygiene and Sustainable Development	Grant	1,000,000
Government	Ministry of Environment, Urban Hygiene and Sustainable Development	In-kind	4,000,000
Private Sector	Centre Ivoirien Antipolution (CIAPOL)	Grant	500,000
Private Sector	CIAPOL	In-kind	500,000
Private Sector	Acieries de Côte d'Ivoire	Grant	45,000,000
Private Sector	Acieries de Côte d'Ivoire	In-kind	4,800,000
Private Sector	CIPLAST	Grant	256,967
Private Sector	ENVIPUR	Grant	1,521,237
Private Sector	EOULEE	In-kind	16,000
Private Sector	Société Africaine de Recyclage (SAR)	Grant	10,000,000
CSO	Association des ferrailleurs, casses et mécaniciens de Côte d'Ivoire (AFECAMCI)	Grant	6,000
CSO	MESAD	Grant	10,000
Others	University Felix Houphouet Boigny	Grant	186,000
GEF Agency	UNIDO	Grant	40,000
GEF Agency	UNIDO	In-kind	40,000

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Amount($)
Others	UNITAR	In-kind	49,000
		Total Co-Financing($)	**67,925,204**

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

Agency	Trust Fund	Country	Focal Area	Programming of Funds	NGI	Amount($)	Fee($)
UNIDO	GET	Cote d'Ivoire	Chemicals and Waste	POPs	No	5,325,000	505,875
				Total Grant Resources($)		**5,325,000**	**505,875**

E. Non Grant Instrument

NON-GRANT INSTRUMENT at CEO Endorsement

Includes Non grant instruments? **No**

Includes reflow to GEF? **No**

F. Project Preparation Grant (PPG)

PPG Amount ($)
150,000

PPG Agency Fee ($)
14,250

Agency	Trust Fund	Country	Focal Area	Programming of Funds	NGI	Amount($)	Fee($)
UNIDO	GET	Cote d'Ivoire	Chemicals and Waste	POPs	No	150,000	14,250
					Total Project Costs($)	**150,000**	**14,250**

Core Indicators

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

Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)
0.00	13.38	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)
Aldrin Tetrabromodiphenyl ether and pentabromodiphenyl ether		0.60		
Aldrin Hexabromodiphenyl ether and heptabromodiphenyl ether		0.28		
Aldrin Decabromodiphenyl ether (commercial mixture, c-decaBDE)		12.50		

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 Hydrochloroflurocarbons (HCFC) Reduced/Phased out (metric tons)

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

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

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

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

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

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

Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)
	90,100.00		

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

Grams of toxic equivalent gTEQ (Expected at PIF)	Grams of toxic equivalent gTEQ (Expected at CEO Endorsement)	Grams of toxic equivalent gTEQ (Achieved at MTR)	Grams of toxic equivalent gTEQ (Achieved at TE)
	1.56		

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

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

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)
	1		

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

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female		400		
Male		600		
Total	0	1000	0	0

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

Please note that the indicator 11 is the total weight of WEEE and ELV waste to be treated during this project. For detailed calculations please see explanations in GEB section.

PART II: Project JUSTIFICATION

1. Project Description

Major changes in alignment with the project design with the original PIF

· An agreement was recently signed between the Ministry of Environment and global private company Société Générale de Surveillance (SGS) to provide control, management and disposal of electrical and electronic equipment and used tires in Cote d'Ivoire. The Government of Cote d'Ivoire has mandated SGS as an external service provider to implement an Extended Producer Responsibility (EPR) system, collect eco-levy and develop domestic recycling infrastructure in the countr. The SGS Renovo E-waste managament solution is divided in 3 modules, namely: 1.Registration and Inspection; 2: Eco levy collection; 3: Support development of waste management infrastructures for electrical and electronic equipment, second-hand tires and used tires. During PPG, as outlined in paragraph 86, consultations started between the Ministry of Environment, SGS and UNIDO to cooperate on national e-waste interventions and to even scale-up e-waste management solutions. Ministry of environment wrote its support to coordinated actions in a letter from March 23 2019 (Annex L). On 27 May 2019, UNIDO and SGS have signed a Memorandum of Understanding (MoU) in Vienna (Austria) to jointly develop national electronic waste management capacities (https://www.unido.org/news/unido-and-sgs-partner-develop-national-e-waste-management-capacities). This MoU formalizes area of cooperation as described in the CEO document, paragraph 78. Also, Africaine de Recyclage (SAR), the local subsidiary company of SGS, has provided a co-financing letter for collaboration on the project.

· Referring to the Council and STAP comments (Annex B), consultations and information exchange with the Ghana GIZ project has been made which has similar activities in terms of capacity-building, training and value-chain analysis. In addition, other comments, e.g. inclusion of export and EPR policies in output 1.1.1., have been addressed.

· Output 3.1.7. has been moved to the investment part under component and budget has been adjusted to reflect the final disposal of POPs.

· Gender Mainstreaming: During PPG a national gender expert has been recruited to conduct a Gender analysis (Annex I) and propose a Gender Action Plan (Annex I). Because gender issues were not reflected in the PIF, outputs 1.1.5, 2.1.7 and 3.1.8 were added to address gender priorities throughout the project.

· Co-financing increased from USD 26,625,000 to USD 67,925,204, especially through participation of the private sector.

1. The global environmental and/or adaptation problems, root causes and barriers that need to be addressed;

1.1. Global environmental problems

1. Environmentally Sound Management (ESM) of chemicals such as Persistent Organic Pollutants (POPs) and products-containing POPs is a major challenge in many developing countries because of the lack of legislative framework and guidance, technical capacity and sustainable business models, awareness, knowledge and training. In return the unsound management may lead to high level of exposure to these toxic chemicals causing negative impacts to the environment and human health.
2. In Cote d'Ivoire the waste streams of Waste of Electronic and Electrical Equipment (WEEE) and End-of-life vehicles (ELV) are a growing concern, particularly since electronic products are becoming increasingly affordable for the Ivoirian population. The narrowing of the digital divide in Cote d'Ivoire has also been marked by an increase in consumption and disposal of electronic goods. However, these end–of- life waste streams are commonly being mixed or disposed of with other (non)-toxic waste streams rather than properly dismantled into recyclables and non-recycables, stored and disposed of. WEEE and ELV also contains high-value recyclable materials ranging from precious metals (such as iron, aluminium, copper, gold) which provide an economic incentive for recycling and re-use, but also toxic substances, such as lead, mercury, cadmium and beryllium or plastics containing polybrominated diphenyl ethers (PBDEs). Mixing of waste streams, openly burning, or improper recycling/re-use of plastics parts containing PBDEs to reduce the waste quantity and/or to extract valuable elements (such as gold, copper) lead to the release of unintentionally POPs (u-POPs).
3. The growing presence, improper collection, unsound environmental management and disposal of WEEE and ELV have negatively impacted local livelihoods in Cote d'Ivoire, particularly amongst the poor populations. Despite the government's efforts, only 50% of waste from industries and households is regularly collected and disposed of. The remaining 50% is being dumped in open, natural areas or in drainage areas, which leads to flooding and threaten the environmental and human health. A significant amount of waste is burned, which exacerbates air quality and results in the release of unintentional POPs. It is common for various chemical products and waste to be neither treated nor disposed of properly.

1.2. Root causes and barriers that need to be addressed

4. There are gaps and barriers the country needs to address to promote the sound management, including final disposal of PBDEs contained in plastics of WEEE and ELV as well as the reduction of uPOPs through open burning of these plastics. This is also crucial for fulfilling several Sustainable Development Goals (SDG) including the SDG-9 on Industry, Innovation and Infrastructure, the SDG-8 on Decent Work and Economic Growth, the SDG 11 on Sustainable Cities, the SGD 12 on Sustainable Consumption and Production and on the SDG 17 on Partnership. The following are the main barriers to be addressed through the incrementality of this GEF project:

5. *Component 1: Legal framework and institutional capacities*

· *Hazardous chemicals, especially POPs, are not adequately addressed within the national legal and institutional framework on waste management. This also extends to the gaps in promotion of Circular Economy approaches.*
· *Lack of technical and knowledge capacity of Recycling and Manufacturing Industries in pursuing Circular Economy.*
· *Insufficient human and technical capacity of the central control of legal, regulatory and normative provisions;*
· *Lack of awareness, on the side of government and civil society, on POP issues in general and their relationship with the the management of WEEE and ELV .*
· *Lack of awareness on the side of government and civil society, on Circular Economy and role of Recycling and Manufacturing industries in relation to WEEE and ELV .*
· *Lack of awareness on the gender issues related to the management of WEEE and ELV, including gender specific risks deriving from the unsafe management of these waste.*

6. *Component 2: Upgrading the technical capacity for the sound management of PBDEs and reduced unintentional POPs emissions*

· *Lack of technical capacity and guidelines related to environmental monitoring, safety of operations, economic and business model operations in relation to WEEE and ELV.*
· *Inadequate capacity of the private sectors to adopt BAT/BEP for a better management of chemicals and hazardous waste.*

7. *Component 3: Establishment of business operation with sound management of plastic materials*

- *Lack of training on Circular Economy in Recycling and Manufacturing Industries, with specific reference to WEEE and ELV management.*
- *Lack of business models promoting sustainable WEEE and ELV recycling.*
- *Lack of current environmentally sound technical capacity of identification, segregation and final disposal of plastics-containing PDBEs*

2. The baseline scenario or any associated baseline projects

2.1. Baseline scenario

2.1.1. Country profile

8. Cote d'Ivoire's development was hampered by a series of crises spanning the past 20 years, notably the political conflict lasting from 2002 to 2007. Social and political instability ensued as a result of this particular crisis and caused the country to plunge into an economic recession. With the 2011 advent of the current government administration, however, the stabilization and development of the country has been gradually progressing.

9. Currently, Cote d'Ivoire is home to the second largest economy in West Africa and is being positioned as a beacon for development in the region. The Gross Domestic Product (GDP) per capita average annual growth rate from 1990-2012 was -0.5%. Despite being a negative figure, this is an improvement from the GDP per capita average annual growth rate from 1970-1990, which was -1.7%. Moreover, recent figures from the World Bank indicate an increasing annual economic growth rate in the country, which surpassed 10% in 2012. The national government is actively pursuing an economic development agenda to push Cote d'Ivoire into the rank of an emerging country by 2020. Under this agenda, the industrial sector's contributions to total GDP are expected to increase from 20% to 40%. Given this "Emergence" scenario, investments in circular economy to boost economic growth coupled with environmental sustainability is prioritized in order to ensure that socio-economic benefits of industrialization will not be made at the expense of long-term environment and population health degradation.

10. However, the current unsound environmental management and degradation patterns of natural resources have negatively impacted local livelihoods in Cote d'Ivoire, particularly amongst the poor, and have hindered sustainable economic growth and development in a variety of sectors. Presently, there are multiple environmental and health threats in Cote d'Ivoire that are exacerbated by the improper management and regulation of chemicals in a variety of industries. Cote d'Ivoire's environment and population health are threatened by the proliferation of hazardous waste originating from industrial sources and increasing household consumption rate of commercially produced products. For example, the growing presence, improper collection, dismantling, re-processing and disposal of WEEE and ELV is of particular concern.

11. In Cote d'Ivoire data shows that an average of 2 million metric tons of waste is being produced annually, including 1.2 million metric tons in the District of Abidjan alone. Approximately 49% of the waste stream is comprised of biodegradable materials, 21% is non-organic waste such as plastic, paper, metal, glass, and textiles, and the remaining 30% consists of inert and non-biodegradable substances, for example, sand. There are no reliable figures of the current presence of hazardous or toxic materials within the municipal waste stream, although there is widespread acknowledgement of its presence.

12. Despite the government's efforts, only 50% of waste is collected and disposed of from industries and households regularly. The remaining 50% is being dumped in open, natural areas or in drainage areas, which can lead to flooding and threaten the environmental and human health. A significant amount of waste is burned, which exacerbates air quality and results in the release of unintentional POPs. It is common for various chemical products and waste to neither be treated nor disposed of properly.

13. The ever-growing presence of e-waste in Cote d'Ivoire has been additionally fuelled by the increasing domestic consumption of electronic goods as well as the importation of outdated or damaged electronic goods originating from other countries. An estimated 10,000 to 25,000 tons of e-waste is imported into Cote d'Ivoire each year. More than a

third of the electronic equipment imported into Cote d'Ivoire is second hand and of variable quality, including completely dysfunctional, due to insufficient testing in its country of origin. An estimated 15,000 tons of e-waste is produced in the country. The amount of domestic and imported e-waste continues to grow rapidly in Cote d'Ivoire.

2.1.2. Regulatory framework and its relationship with the Stockholm Convention

14. **Stockholm Convention.** Cote d'Ivoire ratified to the Stockholm Convention (SC) on Persistent Organic Pollutants in 20/01/2004 and in fulfilment of Article 7 of the SC developed and transmitted its first National Implementation Plan (NIP) on 24/05/2006 to the Stockholm Convention Secretariat (SCS) as well as its updated NIP on 03/05/2017. This project is the first GEF-project addressing the gaps associated with PBDEs and u-POPs in relation to WEEE and ELV management.
15. As a Party to the SC on POPs, Cote d'Ivoire is obliged to comply with the targets designed to reduce or eliminate releases from intentional and unintentional production of POPs. The Government of Cote d'Ivoire through the Ministry of Environment, Urban Hygiene, and Sustainable Development developed an original and updated NIP which outlined programs and actions to achieve its obligations.
16. **General legislation on the environment.** Although the Code of the Environment should give a precise direction of the management of chemicals, the provisions on POPs are missing or is vague. The absence of a national legal text to transpose into national laws the Convention of Stockholm and other conventions (Basel and Rotterdam), constitutes a prejudicial weakness to their sound implementation.
17. The first regulatory efforts towards a more sustainable use of the environment were made in 1996 when Cote d'Ivoire developed its first National Environmental Action Plan (NEAP) which defines priority environmental sectors and outlines environmental intervention strategies, particularly in industrial sectors. In the case of industry special attention is being made on disposal or recovery of industrial and artisanal waste. This includes, on the one hand, a major component of clean production to avoid the generation of waste and also waste recycling component. Thus, waste exchange and energy recovery using waste are options that can be considered. However, this plan does not specifically address the issue of hazardous waste even less the import of used electrical and electronic equipment and / or waste from such equipment.
18. The National Strategy for Sustainable Waste Management developed in 2002 included provisions related to waste exchange and the recovery of waste under specific conditions. In 2006, in the wake of the tragedy that occurred during the dumping of toxic waste in the District of Abidjan, Cote d'Ivoire developed a Strategic Plan for the management of hazardous waste management in that district. This was the first national attempt to develop a legislative framework to address hazardous waste. The plan identified problems related to environmentally sound management (ESM) of hazardous waste and proposed legal management tools, particularly for the management of hazardous waste, notably the creation of a waste exchange, a system of recovery, recovery of waste and a polluter pays decree.
19. Based on these experiences, Cote d'Ivoire has developed a number of legal instruments for the management of chemicals, electrical and electronic wastes and end-of-life vehicles. A list of existing legal framework, including existing laws, decrees and by-laws covering the WEEE and ELV sector, is provided in Annex G, page 3 onwards. It is important to note that the Ivorian constitution of October 2016 provides the following provisions specially targeting the environment:

· Article 27: "The right to a healthy environment is recognized for everyone throughout the national territory. The transit, the illegal import or storage and the dumping of toxic waste constitute indefeasible crimes. "

· Article 40: "The protection of the environment and the promotion of the quality of life are a duty for the community and for every natural or legal person. The State undertakes to protect its maritime area, its rivers, its natural parks and its historic sites and monuments against all forms of degradation. The State and public authorities take necessary measures to safeguard the fauna and flora. In the event of damage that may seriously and irreversibly affect the environment, the State and the public authorities undertake, by applying the precautionary principle, to evaluate them and to adopt necessary measures to prevent them from being carried out. "

20. In addition of the existing national laws (Annex G, page 3 onwards), the following are the main decrees relevant to the project.

- Decree 2017-217 of 05 April 2017 on the environmentally sound management of electrical and electronic waste;
- Decree N° 2017-792 of 06 December 2017 limiting the age of second-hand vehicles imported into Cote d'Ivoire.

21. The Decree No. 2017-792 limits the age of cars imported vehicles in Cote d'Ivoire and through the decree 2017-217 of 05 April 2017 the Government introduced a waste fee on imports of new or second-hand electrical and electronic products in working order according to the "polluter pays" principle and the principle of extended producer responsibility.

22. The Government states that the resources from this waste fee will be used for the implementation of a National Program, which will lead to the creation of a collection and treatment system for WEEE to provide the population with a healthier living environment and better protection of the environment.

23. The decree needs to be strengthened to address the environmentally management of POPs (see Annex G Gap assessment, page 7 onwards). The most essential provisions of the decree are listed below:

- Article 13: WEEE exports to Cote d'Ivoire are prohibited, except under the conditions laid down in the Basel and Bamako Conventions;
- Article 14: any importer of second-hand EEE must provide at the time of the transfer the necessary documents such as the purchase receipt, the sales contract, the test certificate proving that the equipment is functional and intended for direct use;
- Article 16: Any WEEE imported into Cote d'Ivoire, in accordance with the provisions of the Basel and Bamako Conventions, must be for recycling, refurbishment or recovery purposes and must be sent directly to a specialized waste treatment center. WEEE registered.
- Article 17: Any export of WEEE is subject to obtaining an authorization issued by the Minister of the Environment.
- Article 18: Any disposal of WEEE is prohibited:
- By combustion in the open air;
    - In any body of water;
    - In containers not designed for waste;
    - By landfill or open dumping;
    - Open burning of electrical and electronic equipment or electronic waste in recycling centers;
    - By abandoning WEEE other than in collection centers or approved recycling facilities.

24. Since gaining political independence, Cote d'Ivoire has also been committed to international cooperation and agreements with regard to the management of chemicals and hazardous waste. For this reason, the country has ratified numerous international texts, some of which concern the management of chemicals and hazardous waste (see Annex G, page 5 onwards). Most relevant to the project are the ratifications of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, the Rio Convention on Climate Change, the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade and the Stockholm Convention on Persistent Organic Pollutants.

25. **Gap assessment with reference to the implementation of the Stockholm Convention.**

26. The Environment Code does not specify whether POPs and POP contaminated waste are part of the hazardous waste thus concerned by these provisions, therefore the management of waste containing POPs is largely a matter of legal interpretation. No provision concerning POPs in industrial waste are included in the Order 0010/04/2008 on the import and export of industrial waste destined for recovery.

27. Decree No. 97-678 of 03 December 1997 on the protection of the marine and lagoon environment against pollution provides in its article 17 that it is forbidden. A clear classification of toxic products which also include POPs is missing.

28. Decree No 98-43 of 28 January 1998 on classified installations for the protection of the environment does not apply to the area concerned by the study because the current management of WEEE and ELV including plastics is informal. The management of electrical and electronic waste, including plastics and end-of-life vehicles, should be standardized by legal provisions for their inclusion in the aforementioned decree.

29. Decree 96-894 of November 8, 1996 determining the rules and procedures applicable to the EIA of development projects can not be applied due to the informal nature of WEEE and ELV management. This also prevents the needed development and implementation of accident preparedness plans for the recycling sites, as these are mostly informal.

30. Based on the above, it can be affirmed that the Stockholm Convention on Persistent Organic Pollutants and the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal have not given rise yet to implementing texts in the legal corpus of the Cote d'Ivoire, including legal texts on the environmentally sound management of the unwanted emissions and releases of POPs from industrial waste. In Cote d'Ivoire, there is no law dealing with the management of industrial waste.

31. **Rules governing import and export.**

32. The Environment Code generally prohibits the import of hazardous waste and sanctions their illegal dumping. The export and import of industrial waste destined for recovery are subject to regulation in accordance with the decree n ° 00710 of 15/04/2008 on the import and export of waste of industrial origin intended to be valued. The export of used EEE or WEEE destined for recovery is not covered by this decree. Decree No. 2013-327 of 22 May 2013 prohibiting the production, importation, marketing, possession and use of plastic bags does not take into account the disposal of plastic waste. in a general way.

33. 2.1.3. Institutional capacity

33. Based on the institutional capacity assessment carried out during the PPG phase (see Annex H), the institutional framework for chemicals in general and POPs in particular is characterized by multiple stakeholders and recurrent restructuring. In practice, all the ministries dealing with the problems of chemicals and hazardous wastes have varying degrees of overlap and conflicts of competence in relation to their duties and responsibilities.

34. Misunderstanding and consultation problems have been observed between the Ministry in charge of Agriculture and the Ministry of the Environment which are both charged with the initiative of the elaboration of the development and implementation of laws regulating chemicals and pesticides;

35. The Pesticide homogenization committee is housed in the Ministry in charge of Agriculture, while PROGEP-CI, a pesticide project, is housed in the Ministry of the Environment, who manages the Stockholm Convention on Persistent Organic Pollutants (Pesticides, Dioxins and Furans By-Products, and Chemicals);

36. The Ministry of the Environment, the management of industrial waste and chemical substances, falls under the jurisdiction of the Directorate of Industrial Waste and Chemical Substances housed in the Directorate General of Environment and Sustainable Development while the National programs in charge of the management of waste and chemicals are housed in the Program and Project Coordination attached to the cabinet of the said ministry;

37. No Ministry or department in Cote d'Ivoire has reliable information on the quantities and qualities of electronic and electrical waste including plastics and end-of-life vehicles;

38. The creation of a new Ministry in charge of the City is also an example (see GEF: Sustainable Cities project).

39. The Directorate General of Customs does not have reliable statistics on hazardous waste including WEEE including plastics and end-of-life vehicles.

40. The database on available EEE housed by the Customs does not allow for a distinction between new equipment of the second-hand or used. The reason is that the coding of each type of goods does not specify it. Information on the quality of EEE equipment is only available on invoices. The same problem arises for the Ministry of Trade, which relies on the data provided by the General Directorate of Customs.

41. In general, all the institutions met during PPG, including ministries, private sector NGOs, are unaware of the existence of international conventions and other legal texts relating to environment.

2.1.4. Preliminary Inventory of POP-PBDES in WEEE and ELV, and u-POPs

42. The Global UNU e-waste monitor (2017) estimated that the country has a national e-waste generation of 0.9 kg/inh in 2016 leading to a national e-waste generation of 22 kt in 2016. It is expected that POP-PBDEs are present in certain imported vehicles, in CRT (television, portable) equipment, and in many plastic, textile and upholstery articles. The recycling of these materials may represent a risk for the health and the environment.

43. Based on the NIP update and PPG verification, WEEE consumers in Cote d'Ivoire fall into two categories: households and large consumers. In general, households source directly from retailers, while large consumers use service providers for equipment and maintenance. A diagnostic study on the management of waste electrical and electronic equipment (WEEE), undertaken in the District of Abidjan (Cote d'Ivoire in 2010 revealed that households would own 57% of new EEEs versus 33% of second hands. These second-hand equipment are stored for a period of 3 to 36 months in general before being thrown away with other household waste. The survey also determined, among other things, a household penetration rate of 0.061 computer / inhabitant (fixed and portable). The results of the study also showed that large consumers (public administration and private companies) are equipped with new equipment to 69% and 19% of second hands. They also stored failed devices that could not be determined. The surveys did not, however, make it possible to determine the flows of CRT monitors and the statistics and proportions on category 3 (IT and telecommunication equipment) and 4 equipment (Consumer equipment).

44. Because c-deca BDE has been added to the SC Convention after approval of the project's PIF, research of available documentation has been made. c-Deca-BDE is a commercial mixture of PBDEs listed under the Stockholm Convention, Annex A based on the decision taken in May 2017, at the 8th conference of the parties. C-deca-BDE contains mostly the full brominated deca-BDE congener in a concentration range of 77.4-98% and then a range of other congeners, including octa-BDE and nona-BDE. Due to its recent inclusion in Annex A, an inventory of deca-BDE in Cote d'Ivoire is currently missing. For a preliminary quantification of the amount of deca-BDE in the country, the following has to be considered:

45. c-Deca-BDE is mostly used as flame retardant, partially as substitute of other BDE flame retardants which were withdrawn from the market not only due to their listing under the Stockholm Convention, but also due to their banning under US and EU regulations. Although deca-BDE is not anymore produced in US and EU, it was still marketed until 2017 and is a registered substance under the EU REACH regulation. Around 75% of all the world production of PBDE was deca-BDE.

46. The use of deca-BDE is similar to octa and penta BDE; they have been widely used as flame retardant in plastic formulation and in textile. Except from the inpurity in formulation, this means that deca-BDE, penta-BDE and octa-BDE are not used simultaneously in the same product.

47. The NIP inventory of octa,- and penta-BDE therefore did not include deca-BDE. In addition, testing for brominated flame retardants performed with fast-screening devices (like XRF) cannot distinguish between deca-BDE and other isomers because they only provide estimates based on the concentration of Bromine.

48. Concentration of Deca-PBDE in plastic sheets has been reported in a concentration of 50 to 100 g/kg (SAEFL, 2003); the concentration of deca-PBDE in various plastics has been more recently assessed in the order of 10% to 15% (UK HSE, 2012). To estimate the amount of deca-BDE that can be addressed by the project, the following assumption are therefore made:

a. Percentage of article contaminated by PBDE: 10% (Support to an Annex XV Dossier on Bis-(pentabromophenyl) ether (DecaBDE), prepared for ECHA by RPA, July 2014)

b. Concentration of deca-PBDE in plastic: concentration of 1% in plastic sheets (SAEFL, 2003). It has however to be noted that based on (UK HSE, 2012), the concentration in plastic may be in the range of 10% to 15%.

49. Total quantity (independent from disposal methodology) for 4 categories and for octaBDE and deca-BDE (based on the lower estimate of 1%), are the following:

Table 1. Quantity of POP – PBDEs in electronic equipment and waste (2009-2015)

Equipment	Quantity EEE used (Tonne)	fEEE, used : Part of used EEE among imports in (% by weight)	Total polymer fraction	Content of c-OctaBDE (kg of C-Octa / Tonne of EEE)	Content of deca-PBDE (kg of deca-PBDE / ton EEE)	Quantity of Octa-BDE (Kg)	Quantity of Deca-BDE (Kg)
Computers CRT (Kg)	460.12	0.30	0.30	2.54	1.00	105.18	41.4108
Televisions CRT (Kg)	311.35	0.30	0.30	0.87	1.00	24.38	28.0215
Catégory 3 equipment (Kg)	18322.17	0.42	0.42	0.225	1.00	727.21	3232.031
Catégory 4 equipment (Kg)	22549.11	0.24	0.24	0.15	1.00	194.82	1298.829
TOTAL POP-PBDE (Kg) :						1051.59	4600.29

Table 2. Quantity of POP – PBDEs in electronic equipment and waste (2016)

Equipment	Quantity EEE used (Tonne)	fEEE, used : Part of used EEE among imports in (% by weight)	Total polymer fraction	Content of c-OctaBDE (kg of C-Octa / Tonne of EEE)	Content of deca-PBDE (kg of deca-PBDE / ton EEE)	Quantity of Octa-BDE (Kg)	Quantity of Deca-BDE (Kg)
Computers CRT (Kg)	302.73	0.30	0.30	2.54	1.00	69.20	27.2457

Televisions CRT (Kg)	21.8	0.30	0.30	0.87	1.00	1.71	1.962
Catégory 3 equipment (Kg)	3894.05	0.42	0.42	0.225	1.00	154.55	686.9104
Catégory 4 equipment (Kg)	4122.99	0.24	0.24	0.15	1.00	35.62	237.4842
TOTAL POP-PBDE (Kg) :						261.09	953.60

50. Regarding the transport sector, C-PentaBDE (commercial pentaBDE) has been largely used in the transport sector (flexible polyurethane foam (PUR) treatment: car seats, head restraints seats, car ceilings, sound management systems, etc.). Cars, trucks and buses are the main part of the transport sector with the largest volume of POP-PBDEs. The inventory will only cover these vehicles. Only vehicles produced and used in the period between 1975 and 2004 were taken into account. The inventory of POP-PBDEs in the transport sector addresses the following points:

· Imported (used) vehicles (for the inventory year and for years when vehicle imports have reached significant values as a basis for the inventory estimate);

· Vehicles in service;

· End-of-life vehicles in the inventory year and those that have already reached the end of their life;

· Polymers from end-of-life vehicles

51. Regarding deca-BDE, based on a survey carried out in May 2018 by the European Association of Car Manufacturers, the following information on the concentration of deca-BDE in vehicle was provided by the European Association of Automotive Suppliers (CLEPA) and the Automotive Industry Action Group (AIAG):

· Concentration of deca-BDE in car components: Mostly in the 10-21% range, but there were a few heat shrink tubes, conduit and cables as low as 3.5%; 20-40% in TPE (AIAG); around 7% (textile). 5% (rubber); 15% shrink tube (CLEPA).

· Components containing deca-BDE: For the most part, the decaBDE is used in heat shrink tube, tape, wires and cable; coatings of tubing, shrink/corrugated tubes used to protect cables. Flame retardant coating that contained decaBDE (approx. 20% concentration in coating material) was applied on Tyvek adhesive tapes in the US and in the adhesive used to glue textile and back liner together. Deca-BDE was used in the following materials: Adhesives, plastics (PET, PE), resins, epoxies, flame retardant, acrylics, shrink tubes and thermoplastic elastomers (TPS-SEBS), PUR, rubber, PE.

· Deca-BDE was replaced mostly in the period 2014-2016, although some suppliers declared they had ceased using it only in 2017.

52. SAEFL (2003) estimates a content of 0.625 g/kg with respect to the total weight of plastics in cars exclusive of EE plastic components (switches, transformers, lighting appliances). The amount of plastic in car can be up to 20%. Adopting the SAEFL estimate, assuming an average weight of 1.5 tons for cars and 20% plastics the amount of deca-PBDE in each car would be 187.5 g.

53. Estimates related to dioxins and furans. A preliminary u-POPs calculation has been made during the NIP development, however, this project will focus on open burning releases during improper treatment and/ or disposal from WEEE and ELV. In Cote d'Ivoire, dioxins and furans are released in the atmosphere essentially as unintentional by-products following the combustion of all kinds of wastes, including plastic from WEEE and ELV.

54. Preventing the open burning of 130 tons of plastic (calculated as an average of 30 tons from WEEE and 100 tons from ELV) will allow for a maximum direct reduction of 12000µgTEQ x 130 tons of plastic = 1.56gTeq assuming an emission factor equal to the one adopted in the UNEP toolkit for the open burning of cables

2.1.5. Technical capacity for the management of POPs deriving from WEEE and ELV

55. Since the 1980s, Cote d'Ivoire has imported thousands of older used vehicles and e-waste. Today, those items do end of within the municipal waste stream without proper dismantling, processing, treatment and final disposal, with risk of dioxins and furans emission through open burning. In addition, certain plastic items contain POPs such as PBDEs. The private sector will play an important part in scrap collection, dismantling, processing and recycling or final disposal of WEEE and ELV.

56. The import of e-waste to Cote d'Ivoire specifically for re-processing has not been tracked in the country and there is currently no data on this category. However, there is significant and growing import of second hand EEE equipment much of which is unsuitable for resale. Information received from distributors and importers coupled with a review of data from the General Directorate of Customs give an estimate of 30 percent new EEE imported and 70 percent used EEE.

57. The majority of actors involved in the import and distribution of EEE are part of informal or semi-formal channels, so that the majority of equipment is sold in many small shops grouped by types of devices in markets specifically dedicated to EEE. The second-hand equipment account for more than half of total imports and vary in quality; some were not tested in the country of export. Some untested equipment are of such poor quality that they will probably never work and will be feeding directly the informal recycling system.

58. The estimates were derived from analysing and cross-referencing existing data from the General Directorate of the Customs; the Ministry of Commerce and data gather from an earlier study conducted by UNEP in 2010. If the above trend continues, it is estimated that e-waste production will reach approximately 14,000 tonnes by 2019. The e-waste generated from 2010 to 2019 has been extrapolated to reach about 14,000 tonnes in 2019 for Cote d'Ivoire.

59. E-waste quantities from this estimate are slightly lower than those in the previous UNEP study (15,000 tonnes estimated in 2009). This is due to the fact that the present study was limited to ITC-related e-waste rather than the broader category of WEEE used in the UNEP/SBC study.

60. In addition, the above estimates are conservative given the growing expansion of ICT-related projects and focus by the government. Cote d'Ivoire is classified as a lower-middle income country and is witnessing a fast growth in the area EEE industry. The ICT sector has been identified as a principal means for economic development.

61. In Cote d'Ivoire, the management of electrical and electronic waste, as in many developing countries, takes largely place without any concern for the environment or human health. Recycling operations are, in most cases, very basic, resulting in exposure of workers and recyclers to PBDEs and heavy metals and other contaminants of concern. The main scrap dealers are located in the communes of Koumassi and Marcory (Anoumabo). The WEEE dismantling activities occur in the scrapyards of the communes of Koumassi, Marcory Anoumabo and Adjamé. Some of the e-wastes are also incinerated to extract valuable elements, for example cables for copper recovery.

62. Generally, the main elements extracted are, on the one hand, copper, aluminium, iron, bronze, brass and rubber and, on the other hand, integrated circuits, capacitors, transistor and resistor. Low-value e-waste components, such as plastic cases removed when disassembling computers and monitors, are often abandoned, dumped into the environment, or even burned in the open air. Elements extracted from e-wastes are generally sold to other collectors or sold directly to local artisans or manufacturers (container manufacturers, factories), and foreign exporters. Specifically:

- scrap dealers sell iron, aluminum, brass and zinc to blacksmiths for the manufacture of pots, wheelbarrows, etc. The local market makes it possible to absorb these fractions appropriately;

- brass, copper and lead are sold to Lebanese, Indian or Chinese companies in the place for export or exploitation - printed circuit boards are usually sold by the kilo to foreign buyers who export them for recovery of precious metals;
- the plastic is sold to certain structures for the manufacture of shoes, containers, etc.

63. In the following table, potential private operators to be involved in the project are summarized.

Table 3: Result of a private operators

Private operators	**Capacity assessment**
SGS- SAR	The Government of Cote d'Ivoire has mandated SGS as an external service provider for the collection of the anticipated ecotax on behalf of the State of Cote d'Ivoire in order to carry out a physical inspection and verification program of exports of all EEE and new or used tires for shipments. The actives have not started, however during PPG, consultations started between the Ministry of Environment, SGS and UNIDO to cooperate on national e-waste interventions and to even scale-up e-waste management solutions (Annex L).

AFECAMCI	AFECAMCI is an association of scrap dealers. The association has a seat in public places where the trade of used parts of vehicles at the end of life occurs. These places are commonly called "CASSES". The head office is located in Abidjan. In order to achieve its mission of awareness recorded in its rules of procedure, the association has created an NGO called Experience Green 2025, which is responsible for raising awareness among AFECAMCI members. AFECAMCI has around 10,000 members throughout the country. In addition to the breaks of each city inside the country, Abidjan only counts 6 breaks. These are the casses of Abobo Anador, Abobo Ndotre, Adjamé, Marcory, Koumassi and Yopougon. The NGO carries out sensitization activities for scrap metal and WEEE actors, notably on the collection, dismantling, sorting and harmful effects of persistent organic pollutants. For the coming years, AFECAMCI and its NGO plans to raise awareness of their member for a total cost of 561,600,000 CFA francs from 2019 to 2023 (US $ 1,123,200). Indeed, this amount corresponds to information of 300 people during the day for a total cost of 120,000 CFA francs. Reported to 03 days of breakage training and once per quarter, with three types of training, namely scrap management, WEEE and health awareness and over 05 years.

SOTACI	The company is located in Yopougon Industrial Zone, a suburb of the city of Abidjan . SOTACI uses the raw material imported from Asia (China) and Eastern Europe for the manufacture of machetes and other metal objects for non-combustion liquid iron. It also receives 8, 12 and 32 concrete reinforcing iron from the foundry company ACIERIES DE CÔTE D'IVOIRE in order to manufacture iron 6. It is therefore not directly affected by the POP project framework, particularly the direct management of discards of vehicles at the end of their life.

ACIERIES DE CÔTE D'IVOIRE

The Cote d'Ivoire steel company receives daily tons of scrap merchants.
Scrap iron on arrival is weighed and conditioned for processing according to environmental quality standards. Mechanical sorting, milling, cooling and molding technologies are all present. These products are weighed automatically to have the amount of scrap to repay the seller. The company fixes the price of the kilogram according to world prices. Then, the scrap goes to sorting outdoors by qualified personnel. It is then divided into categories, namely: light scrap, good quality scrap metal, cast iron scrap and mechanical part.
The company also recycles end-of-life vehicles. The frame meets environmental standards. The space is large enough to receive tons of scrap. But given the abundance of rubbish on the city of Abidjan, the capacity may not be enough. For this purpose, the company has programmed the construction of other factories of the same type in the cities of the interior.
The waste treatment capacity is as follows:

· Iron tonnage received per month for recycling; Scrap is received from truck scrap traders and unsorted. The sorting is done on the spot by first manual with a recruited personnel, then by mechanical way. Scrap is sorted by category. In total, the company receives between 6,000 and 7,000 tons of scrap per month. This corresponds, to about 84,000 tonnes a year.

· The processing capacity of the plant: Production is therefore between 5 000 and 5 500 tonnes per month of iron 8, 10, 12 and 32 as finished products. From receipt of scrap to production, there are between 1,000 and 1,500 tons of losses. However, the plant's maximum recycling capacity is 10,000 tonnes per month, which is an unmet demand of 3,000 to 4,000 tonnes. So for the next 05 years, they expect at least 600 000 tonnes of scrap from 2019-2023

· The process put in place is that of induction melting with a furnace that rises to 1750 degrees. The induction is done by a combustion of the materials which sometimes causes a smoke a little

MESAD	The Movement for Health Education and Development (MESAD) is specialized in raising awareness on the sound management of WEEE. MESAD is a special assistance NGO set up in 2001 to initiate a resocialization program for street children in Abidjan. The office is located in a popular area of the city of Abidjan named Marcory. It is a two-storey building with a room on the ground floor where products and equipment are stored. The structure began its activities by the care of street children and the sanitation of the living environment of the populations by the management of the WEEE since 2013. In a planned project for 05 years tacitly renewable from 2013 to 2018, the NGO decided to invest in the reception, dismantling, sorting and packaging of all WEEE. The idea of creating a larger space is being considered MESAD receives WEEE waste at its premises or from its resellers. Purchasing capacity is between 10 to 12 tonnes per month of mobile phone components and accessories per year. These components will undergo dismantling, sorting and packaging for export sales. No sorting element is recycled by the MESAD. The new progress of the MESAD with the construction of a local recycling plant with its partners, will increase the collection of 12 to 13 tons per month of WEEE. This corresponds to an estimate of 780 tons over the 05 years with a broadening of the scope of action of the NGO to all WEEE throughout the city of Abidjan and the national territory. Thus it plans to form a network of 1000 repairing artisans to the job of collector and sorting throughout the city of Abidjan.

HOLDING GROUPE EOULEE	The head office of HGE is in the administrative district of Plateau. It has a meeting room and a secretariat with staff. HGE does not have a physical WEEE recycling plant to date. It is therefore advisable to wait for the construction of the plant as they committed for the project. Awareness planning and organization of players in the field of plastics of WEEE and end-of-life vehicles, local populations and local authorities will be taken into account in ’he's activities. To date, it is possible to estimate vehicle rejects at 23,000 tons and WEEE at 100 tons for the 05 years of the project compared to the number of inhabitants of the two cities (ratio of 0.04). HGE wants the project to explore waste treatment options for recycled waste to avoid recontamination of environmental matrices.

CIPLAST Abidjan	CIPLAST is a plastic recycling plant which is operating since more than 2 decades. It is located in the industrial zone of Yopougon, a western part of the city of Abidjan. CIPLAST is in partnership with American, German and Pakistani partners. Locally, the company works for large companies such as SAPH, FILTISAC, NESTLE. It employs around hundred people. It has 03 large warehouses for waste reception and recycling. The structure has a fleet of vehicles for exporting goods for sale. CIPLAST could be a candidate for this project because the premises are suitable for receiving plastic products from non-POPs WEEE that it could buy from WEEE and ELV dismantlers to resell and recover its purchase cost. The structure receives on average between 3 to 5 tons of plastic waste per day. CIPLAST has an electrical fusion capacity that imposes a current bill of 6,000,000 / month and manufactures pellets. For finished products, it has adequate machinery for the manufacture of agricultural equipment (rubber, cocoa and coffee culture).
ENVIPUR	Envipur is a company operating an incinerator. Incineration is not the preferred option for the final disposal of POPs and careful attention needs to be placed for a capacity and cost-benefit assessment. (see output 3.1.7)

CGECI	Confédération Générale des Entreprises de Côte d'Ivoire (CGECI) is an employer nonprofit organization that advocates and provides support for its member enterprises towards government, public authorities as well as regional and international organizations. Its mandate is to promote freedom of enterprise and market economy and to reinforce social dialog between employers of the private sector and the government of Cote d'Ivoire. CGECI is in charge of communicating to its members all information related to the promotion or development of their activities; and is involved in negotiations with government representatives. CGECI may be involved in the negotiations related to the implementation of the SGS-SAR solution in the country.

2.1.6. Current business operation for the management of WEEE and ELV

64. At the informal sector level, there is no structure in charge of collecting electrical and electronic waste including plastics and end-of-life vehicles in Cote d'Ivoire. In many cases, electrical and electronic waste is stored on-site in shops, offices; sometimes this waste is abandoned. Individuals, commonly referred to as collectors, go to these locations to collect them for reuse or recycling by scrap dealers. According to customs sources, at the level of the ports, in some containers coming from outside there are WEEE whose owners are not often informed of their presence. These WEEE are often abandoned in ports and collected by collectors and sold to scrap dealers.

65. The main areas housing these operators are located in the communes of Koumassi, Marcory Anoumabo, Adjamé Habitat Extension and Abobo, where electrical and electronic waste, including plastics, is being treated. Most of the scrap metalworkers are in small sheds (makeshift barracks) serving as workshops. There are also other categories of actors (pre-collectors, collectors, repairers, breakers, recyclers) out of which some are also specialized for certain operations or for the recovery of certain materials and depend on a well-organized hierarchy including the AFECAMCI.

66. The ingenuity of this sector allows reuse of new materials directly on the Ivorian market, for example the recovery of insulating materials and sheet metal that allows the reconstruction of cold rooms that will be sold on the local market.

67. Waste electrical and electronic materials including more valuable materials such as copper, aluminium, scrap are sold to intermediaries who export to China and India often at below international market prices. Other materials such as plastics and cathode ray tubes obtained from electrical and electronic waste are either incinerated in open air on wild dumps or thrown into the lagoon.

68. Three of the six sites are mostly occupied by dismantling end-of-life vehicles. They are located in Abobo- Anador and N'dotré. Generally the sites occupied by the AFECAMCI do not belong to them. Thus the site of Adjamé Macaci which deals with the informal treatment of vehicles at the end of life belongs to the Imprimerie Nationale. This situation does not allow scrap dealers to work in peace because they can be removed at any time by the state.

69. According to surveys, the import of end-of-life vehicles is rare. These are used vehicle spare parts that are imported in contravention of the provisions of the Basel Convention (without packaging, labeling, etc.) by mainly foreign economic operators. Collectors and scrap dealers obtain their supplies from their stores.

70. At the local level, end-of-life vehicles are collected from the owners of these vehicles and other owners as a result of numerous attempts to repair these vehicles. Sometimes it arises from disputes between the vehicle owner and the convenience store. Police stations are sometimes seized because there is no indication that the end-of-life vehicle is not owned by the so-called owner. It also happens that owners of vehicles at the end of their life deposit their vehicles at the repairer site and disappear.

71. AFECAMCI estimates that at their sites, they accept around 5,000 end-of-life vehicles each month (total 60,000 / year). It is also estimated that each month, each AFECAMCI site exports shipping containers ranging from one to 220 feet loaded with merchandise for sale (6 to 12 in total / month). At present in Cote d'Ivoire, the dismantling of end-of-life vehicles is not as common as that of e-waste due to the use of PBDEs which ceased in 2004. Only vehicles and buses coming from US and Japan contain as indicated by the global PBDE inventory guidance. Almost all the plastic and rubber that AFECAMCI extracts from abandoned and recovered electrical and electronic waste, and end-of-life vehicles are burned in the open air.

72. The schemes in Figure 2 and Figure 3 shows the current value chain linking customs, households, recyclers and final disposers for WEEE and ELV in Cote d'Ivoire.

73. At the end of the life cycle, the scrap is valued in a steel plant. The visit of the latter revealed that this scrap is conveyed with some of the polymers contained in the vehicle (joints, foam, etc.). The industrial unit sorts this waste as much as it can, but some of it is inevitably burned in the arc furnace. Thus, the risk of producing dioxins and furans exists, especially since the treatment of oven fumes is not effective, according to the steelmaker's own admission.

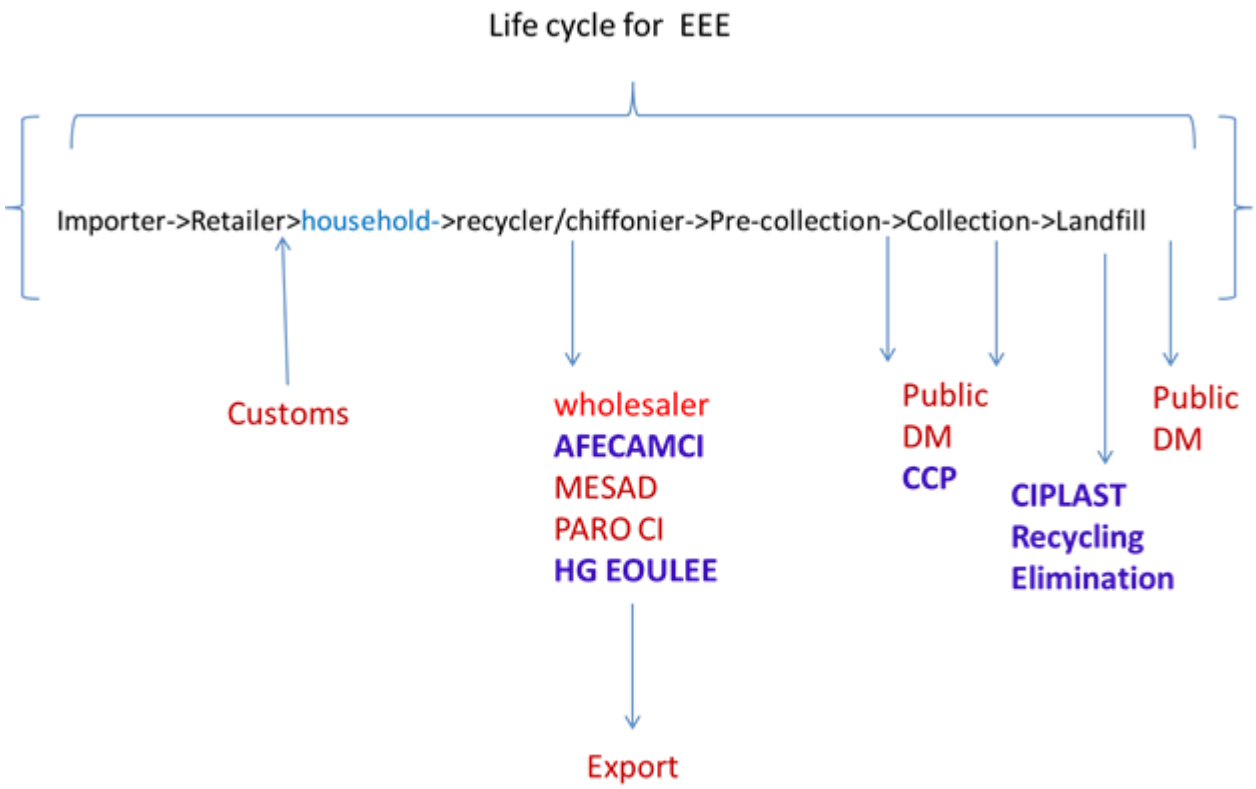
2.1.7. Awareness and gender mainstreaming issues

74. Government authorities are largely unaware of the existence of conventions and other legal texts related to waste management, in particular the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, Stockholm on Persistent Organic Pollutants, and they also ignore the risks and dangers of unintentional emissions. There are no trainings, awareness raising events on circular economy, POPs, e-waste and ELV at the moment which would raise the awareness on the environmental and human health risks but also on the economic benefits of proper recycling of valuable materials from these two sectors while disposing of plastic parts containing PBDEs.

75. During PPG consultations with stakeholders were carried out and it was confirmed that there are no training covering the life-cycle of WEEE and ELV management by promoting Circular Economy and simultaneously disposing of plastics containing PBDEs.

· The gender analysis (see Annex I) revealed that women are heavily involved in the separation and selling of scrap which poses risks to human health and children. There is a knowledge gap about the risks of improper separation and burning procedures whilst only limited initiatives exist targeting gender-specific work into the life cycle of WEEE and ELV, including small-scale business.

Figure 1:Scheme showing the EEE lifecycle from import to elimination



DM: delegated managemnt

Figure 2: Scheme showing the lifecycle for vehicles from import to the management o ELV

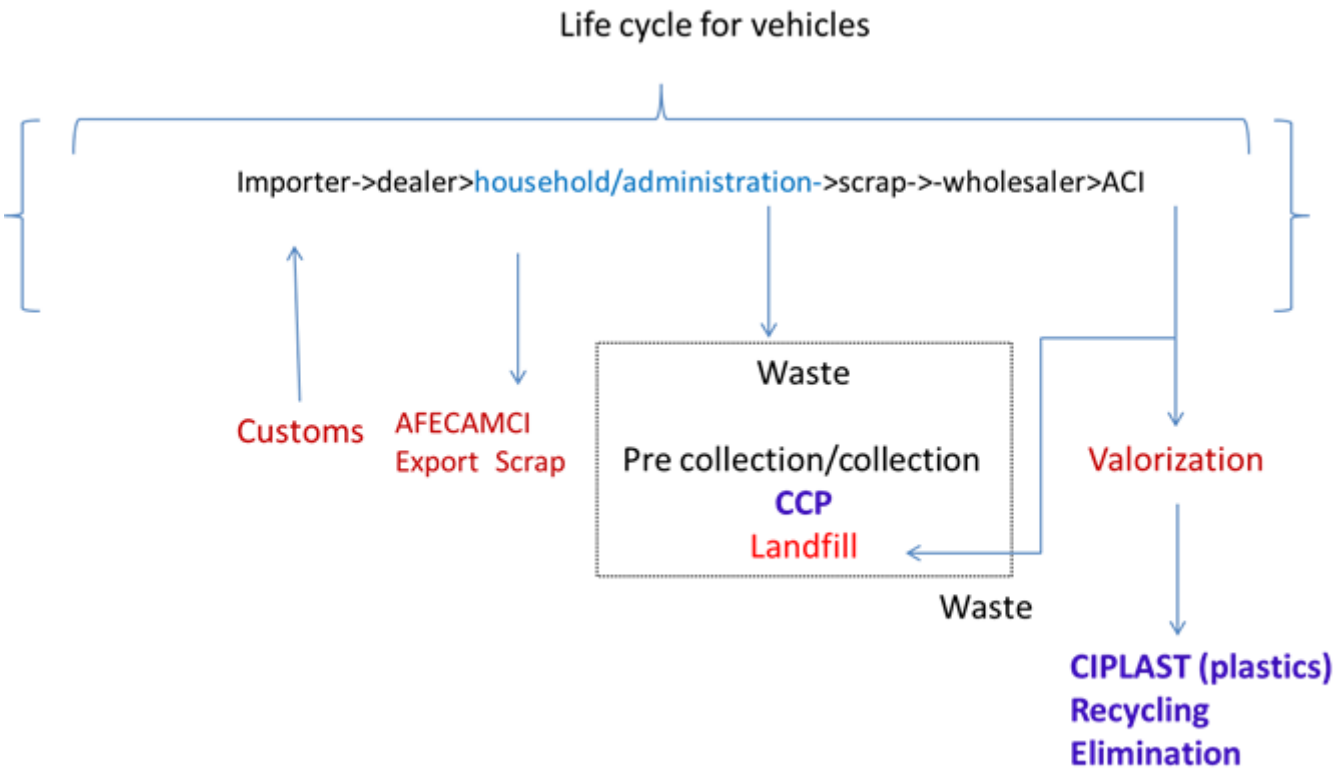


Figure 4: Plastic brought to steel mill with scrap

2.2. Baseline projects

2.2.1. National projects

· In 2009 and 2010 the Cote d'Ivoire e-Waste Country Assessment, comprising Components 1 and 2 of the Secretariat of the Basel Convention e-Waste Africa Project, was undertaken in the cities of Abidjan and San Pedro. Relevant policy and legal frameworks surrounding e-waste were analyzed; a stakeholder analysis was conducted, including importers, distributers, consumers, collectors, repairers, dismantlers, and recyclers of e-waste; a mass flow assessment was made; and a national e-waste management strategy was drafted.

· In 2011, the Government of Cote d'Ivoire adopted a sustainable waste management strategy for the District of Abidjan, which was developed with assistance from the Public-Private Infrastructure Advisory Facility (PPIAF). The project was successful in eliminating many informal dumpsites that were scattered throughout the city, but a longer-term solution is still needed to mobilize necessary resources and financing, organize the waste management sector, and utilize appropriate technology for the collection, transport, treatment, and elimination of waste. In 2014, the City of Abidjan outsourced its waste management through a concession to an American operator, Wise Solutions CDI, which is expected to begin activities in late 2015. The company's proposed activities include improved waste sorting, recycling, and energy capture, but their operations will be limited to Abidjan.

· UNIDO has led the creation of a National Implementation Plan (NIP) for the Stockholm Convention in Cote d'Ivoire, in partnership with key actors from the Ministry of Environment, Urban Hygiene, and Sustainable Development. The project has assisted the country to conduct the PBDE inventory particularly focusing on the electric and electronic waste and end-of-life vehicles. San Pedro is one of the main ports which import the used electric and electronic equipment as well as used vehicles. The latest PBDE inventory concluded that there could be the total amounts of 117 tons of PBDEs in the e-waste and 1.3 tons of PBDEs in end-of-life vehicles have been imported in the year 2014.

76. During PPG stage it was found that after the enforcement of the decree on management of e-waste in 2017 (Annex P), the Cote d'Ivoire government signed an agreement with SGS for the collection and treatment of WEEE and used tires. The company has two main objectives (i) to identify, record in a newly created data base and physically inspect WEEE and ELV that arrive to the country's harbours to know its origin and composition, and (ii) to recover the eco-taxes from the sale of WEEE at national level. In partnership with its local subsidiary company SAR, SGS, which specializes in inspection, verification, certification and institutional supervision, has proposed to the Ivorian government a management solution in the three SGS modules. The first module deals with the identification and registration of new and second-hand imported electronic products on the SGS exporter portal prior to export. The second module collection, on behalf of the government, of the eco-tax on new and second-hand imported products under the Polluter-Pays Principle and the Extended Producer Responsibility (EPR) Principle. Payment of the eco-tax is made on the exporter portal and all e-equipment is automatically registered, while e-waste is banned from export. Proof of payment of the eco-levy is mandatory for export authorization, and inspection of all exported goods including second-hand electronic and electric equipment, is made before export as part of the conformity assessment already performed by SGS worldwide. The amount of eco-levy collected for electronic and electric equipment and used tires in Cote d'ivoire is a fix price per item (see Annex Q). Financial resources collected through the eco-levy will only be used to invest in domestic collection and recycling value chain. t

77. SGS subsidiary company SAR has been tasked to set up 1 recycling facility and 50 collection centers at national level. It is planned that during the startup phase two centers will be organized at Songhon, a village 30 km from Abidjan, one for collection of WEEE and one for collection of used tires. Activities for However,both SGS and SAR are yet to start in the country.

78. During PPG, the Ministry of Environment, SGS and UNIDO consulted on ares of project coordination and domain of interventions. The Minister of Environment, in a letter from March 27 2019 recognized the existing synergy and the relevance for cooperation between SGS and UNIDO. With regards to the inclusiveness of the value chain and in line with the area of cooperation reflected in the Memorandum of Understanding (MoU) between the two parties and the inclusive and sustainable industrial development objective of UNIDO, SGS has declared that it would set up a registration scheme in order to bring existing informal actors (collectors, dismantlers) in the formal economy. As of April 4, 2019, the proposed grand lines of framework for collaboration with SGS are the following:

79.

a) In the context of the SGS-Renovo 3-module solution operationalizing the "polluter pays" and "extended producer responsibility" principles, SGS facilitates the establishment by authorities of e-waste recycling centers as part of a national infrastructure for ewaste management.

(b) In the context of GEF-UNIDO projects (national and / or regional), UNIDO may construct storage centers for electrical and electronic wastes from the existing informal sector and future resellers.

(c) UNIDO provides technical assistance to private actors in charge of the manual collection and dismantling of e-waste, in order to ensure the participation of the formal and informal sector already active in the recovery of such waste ; the main objective being to promote the upgrading of industrial operations and to ensure the separation of POPs-containing materials.

(d) Recycling center (s) mentioned in point (a), shall accommodate the e-waste previously subjected to sorting and possibly pre-treatment operations, with the exception of plastics treated by existing retraining actors, whose skills will be strengthened by UNIDO to promote private sector participation in the circular economy.

(e) UNIDO provides technical assistance to ensure compliance of the operations of the infrastructures with best available techniques and best environmental practices for the environmentally sound management of POPs;

(f) UNIDO may contribute to the revision and strengthening of the existing legal framework and institutional capacity for the environmentally sound management of POPs, polybrominated diphenyl ethers (PBDEs) and unintentional POPs emissions (uPOPs).

(g) UNIDO may help building the capacity of individuals in the informal sector and associations involved in recycling and waste disposal operations, promote the health of individuals and support the improvement of working conditions.

By saying the above, this GEF-UNIDO project will promote an enabling regulatory framework for e-waste management and will strengthen technical capacities of existing companies to improve sound management of e-waste and POPs-containing-part and to reduce POPs.

2.2.2. Initiatives undertaken by other local NGOs

80. Several local NGOs have conducted collection operations and other initiatives to increase the safety and sustainability of e-waste management and processing. These and other NGOs play an important role in the sector and could be key players in the future with the necessity of educational and awareness-raising campaigns for a variety of individuals in communities.

81. NGOs currently involved in activities linked to e-waste management include : (1) Compassion Médicale – ICT waste collection; (2) FEDOCI – collection of scrap and ICT waste; (3) Vie Familiale – investigating impact of e-waste in households; and (4) Ivoire Développement Durable – introduction of environmentally sustainable practices in schools and communities

2.2.3. International cooperation and donors

· Clic Vert is a digital solidarity project aimed at promoting the digital inclusion and recycling of e-waste in French-speaking Africa. Five workshops on the remediation of used mobile phones were set up in Burkina Faso, Benin, Niger, Cote d'Ivoire and Cameroon in partnership with Orange and Emmaus International.

· Projects undertaken in Cote d'Ivoire demonstrate the commitment of the country to improve industrial waste management and its impact on human health and environment. However gaps and barriers remain, that this project will address to promote Circular Economy and to establish an environmentally sound management of WEEE and ELV, including recycling of valuable parts and final disposal of plastic-containing PBDEs. UNIDO will involve actors (e.g.MESAD, private actors etc) already active in the improvement of industrial waste management, and will ensure that new or improved industrial processes are POP-free, that POPs emissions are effectively monitored, that a revised legal and regulatory framework is suitable to ensure the sustainability of improved processes, and that business operations of plastic recyclers are enhanced to compensate the additional costs of separating plastics material for final disposal from the one suitable for reuse.

2.3. GEF Focal area strategies

81. The project is consistent with the GEF 6 strategy on Chemicals and Waste 2 Program 3:Reduction and elimination of POPs. As from the GEF6 programming direction text, "projects in this program must propose activities that bring reduction of POPs". The program will support the application of technologies, techniques and approaches for eliminating stockpiles of POPs, POPs in products, and POPs containing waste, including e-waste and ELV. The PPG has verified that the following shall be addressed during the course of this UNIDO-GEF project:

· Revise the legal and institutional framework to allow national development of the industrial recycling sector and rational management of POPs and PBDEs in order to achieve proper management monitoring in this sector;

· Organize the dismantling of e-waste and ELV to align with the revised national standard and strengthen business activities, identify all those active in the field and encourage their participation in co-financing under their economic development;

- Ensure improved environmentally sound management of plastics from WEEE and ELV by implementing a plastics recycling management pilot; to identify all those who work in the field of plastic and to encourage their participation in co-financing as part of their economic development;
- Evaluate the impact of gender consideration in the management of WEEE and ELV waste, plastics and equipment containing PBDEs, and their involvement in the creation of green jobs;
- Monitor the impact of the project and evaluate the results of the project.

2.4. The proposed alternative scenario, with a brief description of expected outcomes and components of the project

Component 1. Legal framework and institutional capacities

Outcome 1.1: Legal and institutional framework revised for the sound management of POPs, PBDEs and unintentional POPs in particular

82. This project component is composed of activities, which aim at building the environment for the safe management of WEEE and ELV components contaminated by POPs. Legal and institutional frameworks will be revised to enable successful and development of sustainable industrial recycling activities. During the PPG phase a gap and capacity assessment (see Annex H) has investigate the current status of WEEE and ELV legislative framework in relation to Circular Economy, hazardous chemicals and especially POPs management. Based on the results of the investigation, the needed outputs and associated activities have been identified and developed to ensure that targeted gaps are being addressed. Strengthening of the legislative framework and capacity will be accompanied by sensitization campaigns targeting members of the government, NGOs, the private sector and civil society groups, including gender-sensitive activities. In this outcome, the sustainable development branch of the ministry of environment will support the drafting and preparation of bill and decree on industrial waste.

Output 1.1.1 Relevant POPs elements incorporated into regulatory framework, including import policies and financing system (e.g. EPR) for WEEE and ELV, on the waste management based on the gap assessment carried out during PPG

Activity 1.1.1.1. Preparation of the following legal proposals on industrial waste: classification of hazardous waste; decree on excess material and waste exchange and decree for the implementation of the Basel Convention; the environmentally sound management of PBDE in WEEE and ELV; and the environmentally sound management of plastic waste from WEEE and ELV containing POPs.

83. To deal with all aspects related to the life cycle of waste, the project will assist the Ivorian government in the preparation and adoption of a law on the management of industrial waste.

84. The draft law on industrial waste aims, among other things, to define the conditions for the disposal and recovery of industrial waste, to monitor the channels of producers, importers and exporters of waste, to define control conditions and waste registers, to define the procedures for controlling the transboundary movements of hazardous waste and to note and sanction the offenses committed.

85. Also, the draft law on industrial waste will contribute to the application in Ivorian domestic law of the provisions of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal; and other relevant international texts mentioned above. This draft bill will include chapters, articles and appendices.

86. The project will assist the country in the development of the texts of application of the law on the management of the waste taking into account a decree on classification of the waste in Cote d'Ivoire. This concern helps to prevent pollution, the risk of nuisance caused by waste on human health and the environment.

87. The need for this draft decree derives from the need to avoid in the future illegal import and dumping of hazardous waste in the country. Cases like the dumping of hazardous waste in a number of sites in the District of Abidjan in August 2006, that caused many health and environmental inconveniences to the country, should never occur again. This draft decree will include chapters, articles and annexes for sound waste management in Cote d'Ivoire. The draft decree which will be submitted to the Council of Ministers for adoption.

88. Furthermore, the project will assist in the drafting of the implementing legislation of the future law on waste management to make a specific decree on an industrial waste and excess material exchange in Cote d'Ivoire.

89. The decree on establishing waste and excess material exchange modalities will cover the following topics:

- Legal status (waste or excess material) of the material placed in the exchange marketplace;
- List of material and chemicals allowed / restricted for inclusion in the waste and excess material exchange platform;
- List of allowed / restricted sources of waste and excess material;
- Minimum quality criteria for the material and waste;
- Information to be provided by the industry for the materials / waste to be placed in the platform;
- Financing mechanism for the launching and sustainability of the platform;
- Rules for privileging exchanges allowing low distance transport;
- Rules for establishing trading fees.

90. The aim of the regulation is to establish a future industrial waste exchange which will be a privileged exchange tool for the recovery of non-hazardous industrial waste.

91. The exchange platform will be supported by a database available on the internet that allows companies to view and publish ads for offers and demand for industrial waste to be valued. The Ministry of Environment will have the ownership of the IT domain during project implementation and after project completion. The industrial waste exchange will meet the following requirements::

- divert more waste from incineration and landfilling;
- prevent the production of waste;
- allow to exercise great vigilance to control the impacts of the treatment;
- improve funding and transparency of the public waste service;
- minimize transportation of material.

92. The industrial waste and excess material exchange marketplace therefore will have the following advantages:

- It will allow the multiplication of qualified contacts for the recovery of industrial waste;
- It will motivate industry to pay more attention in the management of waste and excess material, which will be considered as an asset;

- It provides the opportunity to find new value chains;
- It allows the competition to compete for the supply of industrial waste and excess material;
- It saves time for direct contact between suppliers and applicants for industrial waste;
- It will promote the creation of new jobs.

93. Cote d'Ivoire acceded in 1994 to the Basel Convention by Decree No. 94-327 of 09 June 1994. It also a party to the Bamako Convention on the Prohibition of the Importation of Hazardous Wastes in Africa and the Control of Transboundary Movements of Hazardous Wastes and Hazardous Waste Management in Africa. The Basel Convention is closely related to the transboundary issues of WEEE and ELV export throughout the world, however, in Cote d'Ivoire there is no decree implementing the Basel Convention.

94. Under this activity, a draft decree on the application modalities will be developed to prevent, among other things, further import and release of hazardous waste in the country and that only usable products are being imported into the country.

95. This draft decree will include chapters, articles and annexes that will deal with, among other things, the definition and classification of waste and standardization for accepting WEEE and ELV into the country, the criteria and technologies for the environmentally sound disposal of waste, the system of notification and prior written consent, the financial guarantee of the disposal unit, the costs of recovery in case of transfer, waste, general administrative provisions related to the control of transboundary movements of hazardous wastes and their disposal, authorities in charge of enforcement of the decree.

96. The draft decree which will be submitted to the Council of Ministers for adoption.

97. Practical implementation such as strengthening the detection capacity and training of customs officers on effective monitoring of imported goods will be handled under output 1.3.

98. As mentioned in the baseline section, Cote d'Ivoire has the following:

- Decree 2017-217 of 05 April 2017 on the environmentally sound management of electrical and electronic waste;
- Decree N° 2017-792 of 06 December 2017 limiting the age of second-hand vehicles imported into Cote d'Ivoire.

99. However, these two decrees do not take into account the environmentally sound management of POPs, and thus will be updated during the inception course of the project.

100. A draft decree on the environmentally sound management of plastic waste from WEE and ELV containing POPs will be prepared containing the following:

- Quality criteria for plastic waste;
- Proposed concentration limit for POPs (PFOS, SCCP, PBDEs, PBBs) in plastic waste for their classification as high POPs content, low POPs content or non-POPs waste (based on available scientific sources);
- Allowed disposal technologies for POPs plastic waste;
- Allowed use for low POPs content plastic waste.

Activity 1.1.1.2. Assessment and strengthening of current national financing system,including EPR system

This activity will include an assessment of current existing national financing systems, including EPR, to assess the capability to support a sustainable WEEE and ELV operation.

Output 1.1.2. Institutional capacities assessed to strengthen the nationwide WEEE and ELV recycling sector, including sound management of PBDEs and uPOPs

Activity 1.1.2.1. Assessment of institutional capacity to strengthen nationwide recycling industrial sector.

101. The institutional capacity of the relevant institutions (Ministry of Industries & Private sector development, Ministry of Environment, Water resources and Forests) will be assessed in term of:

- Existence of dedicated departments for the development of recycling industrial sector;
- Existence of dedicated departments for the environmental control and improvement of the recycling industrial sector;
- Availability of qualified staff for project development and permitting;
- Availability of qualified staff for environmental control;
- Availability of dedicated financial resources;
- Financial sustainability of the relevant departments;
- Existence of a gender mainstreaming policy in the above institutions.

102. On the basis of the assessment performed, an action plan for the capacity strengthening of the relevant institutions to support the development of nationwide recycling industry will be drafted.

Output 1.1.3. Enforcement capacities enhanced, including inspection and a data tracking system

Activity 1.1.3.1. Preparation of a draft decree for the establishment of a hazardous waste manifest system (HWS) based on a pilot HWS

103. A draft decree for the establishment of a hazardous waste manifest system will be prepared in 3 steps:

- Drafting a guideline for the implementation of a pilot HWS in the sectors of ELV and WEE;

- Piloting the hazardous waste manifest system with the hazardous waste (ELV, WEEE) which will be managed under the project (see Outcome 3.1., Output 3.1.7); more specifically, the HWS will be applied to the following category of waste under the Basel Convention: Y10: Waste substances and articles containing or contaminated with

polychlorinated biphenyls (PCBs) and/or polychlorinated terphenyls (PCTs) and/or polybrominated biphenyls (PBBs); Y26, Y29, Y31, Y40, Y45: Wastes having as constituent specific hazardous compounds (including PBDEs and other POPs)

104. In alternative, the EU classification of waste can be applied. In this case, the following category of waste will be taken in consideration:

- 16.01 end-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance
- 16.02 Wastes from Electrical and Electronic Equipment

105. Prepare a draft decree on the basis of the outcome of the piloting of hazardous waste manifest.

Activity 1.1.3.2. Preparation of a preliminary draft decree for the establishment of private cooperatives for the management of WEEE, and ELV based on a pilot public / private cooperative.

106. The project will pilot the creation and the operation of at least six public/private cooperative of youths, to operate under the authority of the municipalities, for the collection segregation and characterization of POPs contaminated plastic from WEEE and ELV.

107. Based on the piloting of the creation of one public/private cooperative, a draft decree will be developed. The decree shall enhance the social aspect of sustainable development, including gender mainstreaming, by highlighting the employment opportunities offered by the WEEE sector, plastics and end-of-life vehicles. Beside the establishment of sound environmental practices for the management of waste, the decree will therefore have as objective to promote a large involvement of the majority of unemployed women and youth. The draft decree will be submitted to the Council of Ministers for adoption.

Activity 1.1.3.3. Capacity building of sector players in WEEE, ELV, and plastic recycling companies.

108. Training related to the issues related to the presence of contaminants in plastic, with specific reference to POP BFRs, will be delivered. At least 40 staff coming from MESAD, SOTACI, and ACIERIES DE COTE D`IVOIRE will be trained. The training will tentatively cover:

- Introduction to POPs and BFR
- Introduction to international standard for fire prevention which may trigger the use of POP BFRs

· Practical methodologies for the identification of plastic components in ELV and WEEEs which are most susceptible to be contaminated by POP BFRs (age of the end of life vehicle or WEEE, role of the plastic component, etc.)

· Smart segregation of plastic and foam from WEEE and ELV

· Disposal technologies for plastic contaminated by POP B

. Personal protective equipment of workers involved in the management of ELF and WEEE

Activity 1.1.3.4. Capacity building for customs officers, with special reference to the import and export of used vehicles and used EEE.

109. The Basel Convention has established specific rules and guidance for the management of used EEE. Similarly, studies have been undertaken for identifying and address issues related to the export of used vehicles. The purpose is to avoid that Used End of Life Goods, (UELG), which should be considered as waste, are exported to developing country for the sole purpose to avoid the disposal cost. Custom officers will be therefore provided with a specific training aimed at enhance their capacity to differentiate between used goods with a significant residual life, and used goods which due to their condition or age, should be considered as waste. The training will cover at least

a) Introduction to the Basel Convention;

b) Introduction on the Basel Convention guidance on ELV

c) Introduction on the Basel Convention guidance on WEEE

d) National criteria and standard for the import of Used End of Life Goods

e) Documentation into the data tracking system

Activity 1.1.3.5. Data tracking system strengthened

Together with the strengthened capacity at customs to detect WEEE and ELV –containing POPs, a data tracking system will be developed to ensure proper documentation and monitoring of trade flows.

Output 1.1.4. Awareness raised and regional knowledge exchange among national government and municipal officials, private sector, and general public on PBDEs and uPOPs

110. National actors involved in the management of chemicals and POPs are not sufficiently informed, sensitized and educated about the risks and dangers associated with the use of these products.
For this purpose the activities below are proposed. The current baseline on awareness shall be strengthened through the following recommendations:

Activity 1.1.4.1. Development of a communication plan and its implementation guide for information, awareness raising and education of national stakeholders responsible for the management of WEEE, ELF and plastics

111. The importance of education is well established. Indeed, no state could prosper without education of its people. It is therefore the keystone for growth and poverty reduction. It allows, among other things, the guarantee of good management of waste in general and electrical and electronic waste including end-of-life plastics in particular and for the sustainable development. As part of the global movement for vocational training in the field of environmentally sound waste management, Cote d'Ivoire makes education and vocational training one of its priorities.

112. To develop a communication plan, a preliminary interview and questionnaire survey will be conducted among representatives of manufacturing, recycling and waste management firms, environmental authorities and common citizens, to understand the current level of awareness and develop specific message for each target audience. This will be performed with the support of associations and non-governmental organizations, as well by contracting communication experts with an excellent understanding of the Cote d'Ivoire society, to work in close coordination with UNIDO technical experts on POPs. The methodology will ensure the development of simple and very effective messages that in short will have to address the following:

a. Benefits of using non-chemical, less hazardous chemicals and technologies;
b. Introduction to POPs and to POPs BFR.
c. Hidden costs and risk associated with the improper management of WEEE, plastic and ELVs.

113. The communication strategy will also specifically include communication activities addressed to women, to explain why certain substances (like PBDEs) are particularly dangerous for women and children and how to minimize that risk, and to ensure that women and men will have an equal right of access to the information generated by the project.

114. This activity will be therefore achieved through the implementation of the following activities: a) conducting a preliminary survey b) developing a web-based platform c) developing a target-specific communication implementation guide with the relevant associated communication tool; d) implementing specific communication programmes for each target sector.

115. The activities include the development of pamphlets for men and women and a document that includes the conditions for the participation of different stakeholders as well as coaching sessions for women to change their mentality for women and men

116. Handbooks taking into account environmentally sound technology procedures for women's participation in the decommissioning of WEEE and ELV sectors across all segments including in the decision-making sphere.

Activity 1.1.4.2. Regional knowledge exchange with similar E-waste programs in the region

117. During PPG it was noted that the unsustainable release of chemicals due to lack of proper management and disposal, e.g. of e-waste, was a serious and widespread problem in the region, however, it was not explored during the PIF stage. During the PPG phase, consultation with the on-going BMZ-funded E-Waste programme in Ghana exploring the "Recycling and Disposal of Waste of electrical equipment in an environmentally sound way" were held to explore potential regional knowledge-sharing among the similar projects, e.g. study tours and knowledge exchange.

Output 1.1.5. Information and sensibilisation of women and children involved in the WEEE and ELV, especially regarding collection, dismantling and sorting, raised

Activity 1.1.5.1.: Development and distribution of communication material to identified targets

· Under this output communication material on environmentally sound management of WEEE and ELV with on POPs, risk to human health and especially gender considerations will be developed and distributed;

Activity 1.1.5.2: Organization of awareness events for actors of the WEEE and ELV sectors

· At least 3 awareness- raising events for women to the risks of improper WEEE and ELV management, national and global legal framework, better BEP practices and opportunities for women will be organized. More details of the gender action plan can be found in Annex I.

Component 2. Upgrading the technical capacity for the sound management of PBDEs and unintentional POPs

Outcome 2.1. Upgrading e-waste and end-of-life vehicle dismantling sector to meet the revised national legislative framework under component 1 and strengthen business operations

· As stated in the baseline, the current technical capacity of the WEEE and ELV sector dealing with POP-PBDE-containing plastic is very scare. Information on POPs in WEEE and ELV are reported in the literature, however, there are no detailed national studies in Cote d'Ivoire. Therefore the technical capacity of the private sector in addition to the practical capacity of dismantling, processing, recycling and/or finally disposing of recyclables parts needs to strengthen to have a strengthened technical capacity to reach the project objective.

118. Under this outcome the e-waste and end-of-life vehicle dismantling sector will be upgraded to meet revised national standards and strengthen business operations. AFECAM-CI is a self-organized association of dismantlers which operate in several locations throughout the country, it is one of the major players of the dismantling sector. The selection of the project beneficiary will need to be made on a competitive basis following the government's concession policy.This is to allow some motivated groups / dismantlers to propose their best efforts to optimize the synergies between the project and beneficiaries while maximizing the co-financing activities. The Sustainable Development Branch of the Ministry of Environment will support project execution by facilitating collection of environmental data, drafting technical guidelines, facilitating capacity-building activities and identifying private operators from the ewaste and ELV sectors to be refurbished.

Output 2.1.1. Baseline environmental monitoring for uPOPs and PBDEs established

119. Environmental monitoring is a pre-requiste to monitor the reduction of uPOPs and PBDEs during project implementation. To achieve this purpose the following activities are proposed:

Activity 2.1.1.1. Develop/adapt existing guidelines for PBDEs monitoring.

120. Guidelines for the sampling and PBDE analysis in soil, water, sediment and waste material will be developed, based on existing international standard methods. The guidelines will include a selection of methods which best fit the Ivorian situation, and will include indication on minimum requirements for laboratories undertaking sampling and analysis to operate under a Good Laboratory Practice scheme.

Activity 2.1.1.2. Strengthening the capacity of laboratories for effective control of imported or exported chemicals or wastes prior to their entry into and exit from national territory.

121. In reflection on comments elaborated on the PIF, this activity will ensure that at least one laboratory, in support of custom officers, will be accredited for the analysis of POP BFR, and integrated in a calibration network of laboratories at international level. The laboratory will be selected by the Government, and project intervention will only involve capacity-building activities. Training of laboratory staff will be delivered both as class lessons and practical demonstration. The training will include:

a) Introduction to POPs

b) Presence of POPs in ELV and WEEE

c) Sampling of POPs from plastic material

d) Rapid testing of POP BFRs indicators with XRF

e) Laboratory analysis of POP BFRs (PBDE, PBB).

Activtiy 2.1.1.3. Extensive sampling and analytical survey of PBDE in the waste and the environment.

122. The laboratory whose capacity was strengthened will conduct a survey, based on sampling and analysis, of a significant number of plastic samples, taken from the plastic component of WEEE and from upholstery and plastic component of ELV. At least 1000 WEEE plastic samples and 2000 ELV plastic and foam samples will be taken. All the samples will be screened through a XRF for their bromine content, and the positive samples (with more than 100 ppm bromine) will be subjected to laboratory test through GC/MS. The sample will be classified based on the use / function of the plastic or foam component tested, to derive quantities for each category of plastic component.

123. In addition to that, the laboratory will conduct environmental sampling and analysis of soil and water in the environment surrounding plastic, WEEE and ELV recycling factories (at least one factory for each typology). 10 water samples and 10 soil samples will be implementedfor each factory. A database of the results obtained, classified for typology of sample, will be developed.

Output 2.1.2. Technical guidelines on the business operation for sound and safe e-waste and end-of-life vehicle dismantling adopted

124. The project aims at drafting the following technical guidelines to ensure that relevant stakeholders are aware about environmentally sound procedures, best available techniques (BAT) and best environmental practices (BEP) for the WEEE and ELV management. The following guidelines will be developed.

Activity 2.1.2.1. Drafting of guidelines for the environmentally sound management of WEEE.

- National and International Regulation on WEEE
- BAT / BEP in WEEE management and recycling
- Procedure for the collection and acceptance of WEEE
- Procedures for the safe storage of WEEE pending dismantling
- EEE categories and associated WEEE classification
- Hazardous components in different WEEE categories including components containing POPs-componants
- Smart disassembling of WEEE: disassembling of Information and Communication Devices and Office Equipment
- Smart disassembling of WEEE: Large household appliances: refrigerators, washing machines, stoves
- Segregation of POPs- containing components
- Procedures for the safe storage of POPs- containing components
- Commercial value of WEEE components and consideration to achieve circular economy in EEE/WEEE life cycle.
- HSE considerations and PPE

Activity 2.1.2.2. Drafting of guidelines for the environmentally sound management of ELV.

125. The guideline will include as a minimum:

a. National and international regulation on ELV
b. BAT / BEP in ELV management and recycling
c. Procedures for the acceptance of ELV.
d. Waste classification of ELV and their components
e. Procedures for the safe storage of ELV pending depollution and dismantling
f. Procedures for the safe dismantling of ELV, including draining of liquids
g. Procedures for the safe removal and storage of hazardous ELV component: batteries, liquids,
h. Procedures for the safe removal and storage of POPs containing components: plastic, foam
i. Procedures for the safe storage of used tires
j. Commercial value of ELV components and consideration to achieve circular economy in Vehicle Life Cycle
k. HSE considerations and PPE

Output 2.1.3. Safety operation manager qualifications established at the national level

126. Following the development of technical guidelines, stakeholders identified on their ability to monitor processes in the ELV, WEEE and plastic recycling sectors and experts will be trained to ensure that good practices are followed during the WEEE and ELV life cycle. This output will include the following activities:

Activity 2.1.3.1. Training of control authority CIAPOL on POPs monitoring and environmental issues in the ELV, WEEE and plastic recycling industry.

127. At least 40 CIAPOL staff will be trained on the following aspects:

a. Introduction to the Stockholm and Basel Conventions
b. POPs in ELV and WEEE

c. Introduction to environmental monitoring of POPs, with specific reference to POP BFRs and U-POPs.
d. Environmental aspects and permitting of ELV and WEEE installations
e. Environmental aspects and permitting of plastic recycling

Output 2.1.4. Training on business management operation conducted for private sector

128. Following the developed technical guidelines, selected privates sector stakeholders and staff will be trained to ensure that good practices are followed during the WEEE and ELV life cycle. This output will include the following activities:

Activity 2.1.4.1. Drafting of training manuals on business opportunities in the collection and sorting of ELV and WEEE;

129. The training manual on business opportunities will discuss the financial scenario for ELV and WEEE in Cote d'Ivoire, taking into account

a. Introduction to the Stockholm and Basel Conventions
b. National and international market value of the recyclable components
c. National and international disposal cost for the non-recyclable components
d. Investment cost for collection network
e. Transportation costs in Cote d'Ivoire
f. Investment cost for ELV dismantling facilities
g. Investment cost for WEEE dismantling facilities
h. Break-even point for WEEE and ELV dismantling facility
i. Cost for identification and segregation of POPs plastic
j. Market value for non POPs plastic.
k. Banking environment and financing opportunities in Cote d'Ivoire

Activity 2.1.4.2. Training on BAT/BEP and guidelines on WEEE and ELV management the for the private sector

130. At least 80 operators from the WEEE, ELV, plastic and waste collection sectors, including new cooperatives established under the project, will be trained on the guidelines and training material developed under 2.2.1, 2.2.2, 2.4.2. Knowledge management, training and inclusion of the informal sector will be encouraged.

Output 2.1.5. E-waste and end-of-life vehicle operators selected on a competitive basis and refurbished

131. During PPG, private sector dealing with WEEE and ELV dismantling have been consulted and co-financing arrangements have been made to ensure project implementation commitment.

Activity 2.1.5.1: Selection of operators on a competitive basis

· The PPG assessment showed that there is no dismantling of POPs-containing from non-POPs-containing plastic parts in any dismantling company; and as it the separation implies a better organization of the dismantling and recycling operation and the establishment of safety measures for workers. Improving the recycling quality may at least include the

establishment of proper dismantling sites to ensure that POPs and non-POPs-containing plastics are separated, and POPs-containing plastics are finally disposed of in an environmentally sound manner. Final private operators will be selected on a competitive basis according to a list of technical criteria during early project implementation inception.

Activity 2.1.5.2: Procurement of equipment to improve industrial processes of selected operators

· For WEEE: conveyor belts, semi-automated dismantling operations, separate storages, screening, crushing, sieving etc. in such a way that WEEE are dismantled into different streams which can be either directly recycled (=valuable parts) through national or international recyclers or finally disposed of (=POPs-PBDE containing parts). The project will mainly focus on the identification, segregation, storage and safe disposal of plastic contaminared by POP PBDEs.

· For ELV: dedicated storage area and container for different waste streams, crane bridges and cutting tools, shredders for foam and plastic, shredder for glass, computerized databases for the classification of valuable spare parts. Furthermore, the infrastructures to be upgraded will ensure that all the car components that are classified as hazardous waste (batteries, engine oil, brake oil, air conditioning fluids, engine coolants) are properly removed and safely stored for future disposal. Specific focus will be placed on the development of procedures for the identification and segregation of plastic and foam (upholstery, dashboard, bumpers, engine plastic) that may be contaminated by PBDE and which therefore would need to be separated before or after shredding, depending on the procedure which will be selected. This may also include identification of options for the final disposal of the light shredded materials

132. In addition, the workplace needs to include systems and procedures to ensure e.g. good ventilation, the use of PPEs, the development of safety procedures (e.g. Safety Data Sheets, Air Quality Monitoring).

133. A detailed list of equipment to be procured under the project will be in any case elaborated in the course of project implementation, based on specific analysis of the actual needs of the operators.

134. The ELV and WEEE private companies selected as project partners may be however provided with XRF hand held devices which detect bromine in plastic parts with a detection limit in the order of 10/100 ppm. This project will ensure that through the better segregation of WEEE and ELV parts the hazardous parts the private sector will have the opportunity to improve the complete dismantling and recycling process which will in return result in economic profitability (through selling of recyclable materials and improved quality of the implementation and liability of the additional separation of POP-PBDE containing parts.

135. Concerning the proposed XRF technology, it has to be stressed that recent scientific research on the effectiveness of this technology came to the conclusion that *"The only thing that can be said with certainty is that the concentration of restricted flame retardants measured (through GC/MS) is lower than 25% of the Br-concentration measured using XRF"* (Strååt, M.; Nilsson, C. (2018)). Therefore, it is suggested to use the value of Br measured through XRF as a a proxy to indicate the levels of all brominated flame retardants (POPs and non POP). Plastic with a Br content of less than 1000 mg/kg can be treated as safe because it is very unlikely that the POP-PBDE content is higher than 1 000 mg/kg.

136. For this purpose, it has to be considered that, based on the Öko-Institut study *"Effects on ELV waste management as a consequence of the decisions from the Stockholm Convention on decaBDE"*, the pre-shredding segregation of PBDE from non-PBDE waste may be not cost effective; based on this study, PBDE containing shredded material can be effectively segregated based on the granulometry of the shredded material and by adopting post-shredding system. These findings will be carefully taken into consideration when designing the upgrade of selected ELV dismantling facilities.

137. Detailed project assumptions about quantities to be collected can be found under the project scenario for output 3.5, 3.6, and 3.7.

Output 2.1.6. Reduction in emission of uPOPs and PBDEs estimated

Activity 2.1.6.1: Monitoring of baseline emissions

138. The baseline and final releases of U-POPs and POP BFRs will be assessed based on:
a. The UNEP toolkit emission factors for open burning of plastic
b. The UNEP guideline for the inventory of PBDE and other POPs BFR
c. The EU data from the risk assessment of deca-PBDE and related studies

Activity 2.1.6.2: Creation of a a methodological report for the calculation of emission reduction

139. A methodological report for the calculation of emission reduction will be drafted. The data calculated through this methodology will be inputted in the POPs tracking tool. Initial baseline data with expected reduction are reported in the GEB section of the project.

Output 2.1.7. Elaboration and mapping of the conditions of women and children working in the sector, mapping to carry out specified capacity building activities

Activity 2.1.7.1: Creation of a detailed survey for actors of the WEEE and ELV Sectors, more specifically targeting women

140. Based on the Gender analysis, the project will ensure under this output the detailed mapping of gender dimensions in the WEEE and ELV sectors in order to effectively built the capacities on best available techniques and best environmental practices according to the Stockholm Convention as well as socio-economic conditions.

Activity 2.1.7.2 : Implementation of three capacity-building workshops for actors of the dismantling sector

141. More details of the gender action plan can be found in Annex I.

Component 3: Establishment of business operation with sound management of plastic materials

Outcome 3.1. Sound management of plastic materials from e-waste and end-of-life vehicles improved by setting up an Environmentally Sound recycling business operation

142. One of the financial consequences of listing PBDEs and other POP BFRs under the Stockholm convention annex, is that a fraction of the plastic and foam is not anymore recyclable (with associated revenues) but will need to be disposed of in an environmental sound manner (with associated costs). Likely, the cost of characterizing and disposing POPs containing plastic cannot be compensated by the revenue generated only by the plastic recycling. There could be also legal issue or limitation in recycling plastic from the ELV or WEE sectors. Therefore, to ensure sustainability, the whole sector of WEEE and ELV recycling need to be optimized so that the incremental revenue generated through the improved efficiency can compensate the additional costs associated with the characterization and disposal of POPs waste. For example, the possibility to mobilize funding from financial institutions will be explored to ensure the sustainability and potential for scaling-up of the project. Several meetings have been undertaken by UNIDO HQ team and national coordinator in the framework of an ongoing GEF-funded project in Cote d'Ivoire (Sustainable City Programme). The BICICI in Abidjan (Banque international pour le commerce et l'industrie de la Côte d'Ivoire) has agreed to host a financial mechanism in collaboration with UNIDO, to improve funding opportunities for pilot projects. Financial mechanism aims to use some project-fund to create a guarantee fund that will improve liability of SMEs and ease their access to loans for green investments. Consultations with this financial

institutions have confirmed that other type of financial mechanisms could be created, such as revolving fund, equity fund etc, and that possibility to mobilize funds could benefit other projects. Consultations will continue after project approval.

143. Under this outcome the project will move in three directions: 1) training and awareness raising by providing information on how the sectors of plastic, in addition to the sectors of WEEE and ELV recycling can be upgraded to improve their efficiency, environmentally safe operation, and expanding their market; 2) improving operations and equipment of plastic recycling installations; 3) demonstrating – from the technical and financial standpoint – the operation of characterization, segregation and disposal of POPs contaminated plastics. The associated outputs and activities are reported below. The Sustainable development branch of the Ministry of environment will contribute to the execution of the project by elaborating BAT/BEP on management of plastic waste, facilitating capacity-building activities, contributing to the creation of business plans for partners of the private sector and facilitating their technological upgrading.

Output 3.1.1 Technical guidelines on BAT/BEP adopted for the sound management of plastic wastes by the waste management operators

144. This output will envisage only one activity

Activity 3.1.1.1 Development and endorsement of guidelines on BAT/BEP for the sound management of plastic wastes

145. The guidelines will cover tentatively the following aspects:

1) Social aspects of plastic waste management
a. Marginalization and informal collection
b. Women role in the collection and segregation of plastic
c. Women role in the minimization of plastic use
2) Environmental aspects of plastic waste management:
a. Plastic polymer categories and plastic additives
b. Recyclable and non-recyclable polymers
c. Flame Retardants and plasticizers in plastic
d. Source of plastic waste
e. Analytical methods for characterizing plastic material and their contaminants
f. Flame Retardants and plasticizes
g. Plastic and POPs
h. Micro plastic and marine pollution
3) Environmentally sound management of plastic waste
a. Enhancing the value of plastic waste by collection and segregation
b. Classification of plastic as a waste: Basel Convention classification; EU classification
c. Successful examples of plastic recycling
d. BAT/BEP for the environmentally safe disposal of non-recyclable plastic
e. Products by plastic recycling
4) Economy of plastic recycling
a. Market prices for plastic waste and their relation with oil price
b. The role of transportation in the economy of plastic waste
c. Market prices of virgin plastic
d. Hidden costs in plastic production

Output 3.1.2 Trainings for national governments and municipalities with gender considerations conducted to develop sound management of plastic wastes complying with the regulation and enforcement requirement

146. This output envisages two activities.

Activity 3.1.2.1 Training for national government.

147. At least 40 representatives of the national government, with equal participation among male and female, will be trained on the guidelines developed under output 3.1

Activity 3.1.2.2. Training for municipalities.

148. At least 60 representatives of the municipal governments, with equal participation among male and female, will be trained on the guidelines developed under output 3.1.

Output 3.1.3 Training on reduce, reuse and recycle (3R) principles and good plastic waste separation practice for the general public held

149. This output will be achieved through three activities

Activity 3.1.3.1. Development of training packages.

150. A training package will be developed by a firm with experience in visual communication, mostly based on videos and storyboards, for training group of families on the 3R principles and good waste segregation and separation

Activity 3.1.3.2.Selection of NGOs or cooperatives for the development of micro-training initiatives to be carried out nation-wide.

151. NGOs or cooperatives will be selected and trained to carry out the micro-training events in the country.

Activity 3.1.3.3 Micro-training initiatives performed

152. At least 50 micro-training events involving group of families carried out nationwide to introduce 3R principles and waste separation practice

Output 3.1.4 Development of business models and selection of investors following the due diligence of the government concession policy

153. The main achievement of this output is to identify one investor which, with initial technical and financial support from the project, will have the main purpose to collect and pre-treat, among others, plastic waste generated by the ELV and WEEE recycler, will ensure the identification of POPs contaminated plastic, and will manage the placing on the market of "clean" plastic and the disposal of contaminated plastic. This output will be achieved through the implementation of the following activities:

Activity 3.1.4.1. Assessment of the potential market for recycled plastic in Cote d'Ivoire.

154. Based on the available data concerning the amount of plastic waste generated and the development of the economy, with specific consideration of the plastic potentially generated by WEEE and ELV, an analysis of the potential market for plastic recycling in Cote d'Ivoire will be performed.

Activity 3.1.4.2 Identification of the best business models based on the specific situation of Cote d'Ivoire.

155. An analysis of potential business model will be carried out. Tentatively, the following will be considered:

- PPP, (Public Private Partnership), which refers to a long-term partnership in the infrastructure and public service sector in which social capital undertakes most work in design, building, operation and maintenance and reasonable investment return is gained by "user payment" and necessary "government payment"; the government is responsible for supervising the price and quality of infrastructure and public service to maximize public interests. PPP is more than a fixed mode; it includes various operation modes. Concession is the main carrier of PPP mode.

- BOT (Build-Operate-Transfer) refers to the operation mode in which social capital or project companies undertakes the design, financing, construction, operation maintenance and user service of new projects and after the expiration of the contract (20-30 years), project assets and relevant rights are transferred to the government

- TOT (Transfer – Operate – Transfer) refers to the operation mode in which the government transfers all stock assets to social capital or project companies for operation, maintenance and user service and after the expiration of the contract (20-30 years) assets and ownership are transferred back to the government.

Activity 3.1.4.3. Involvement of potential investor.

156. In Cote d'Ivoire, a number of potential investors in the sector of plastic recycling (for instance, Holding Group EOULEE in San Pedro and Capacity, CIPLAST and ENVIPUR) already exist. A request for expression of interest will therefore be launched to select an investor in the field of plastic recycling .

Output 3.1.5 Business operations established by private sectors working on sound management of plastic waste engaging public-private partnership modality if relevant

157. This output will be achieved through the following activities

Activity 3.1.5.1. Market rules established, and Business plan including investment plan drafted.

158. Under this activity, the commercial relationship between the generator of plastic (BFR and non BFR) and the plastic recycler will be established. The business plan for the first two years of operation of the plastic recycler will be drafted and approved by the project.

Output 3.1.6 Waste management practice improved to reduce PBDEs and uPOP emissions to the environment

159. The improper management of plastic generated by ELV and WEEE are a major source of the release of PBDE and u-POPs in the environment. To reduce the dumping in the environment of plastic and foam discarded from the recycling of ELV and WEEE, a key strategy is to establish tractability of ELV and WEEE and licensing of recyclers authorized to recycle / dispose these waste stream. The traceability of ELV and WEEE is established under output 1.3. Activity 1.3.1. (Hazardous Waste Manifest). In addition to that, the project will establish a register for plastic recyclers authorised to dispose specific plastic waste stream. The linkage between ELV and WEEE upgraded recyclers and the upgraded plastic recyclers, if proper monitored and enforced, will ensure that the plastic waste is properly managed and the release of PBDE and U-POPs is minimized. This output will be therefore achieved through the following activities.

Activity 3.1.6.1. Establishment of the register of authorised plastic dismantler and recycler.

160. In line with international regulations (Basel convention, EU waste regulation) national plastic waste recycler, upon inspection from the government, will be granted with the permit to recycle / handle plastic waste generated by ELV and WEEE recyclers. The ELV and WEEE recyclers will be authorised to dispose plastic waste only through authorized plastic recyclers.

Activity 3.1.6.2. Upgrading plastic recycling technologies in selected facility to separate BFR and non BFR plastics

161. Based on the characteristics and prevalent composition of plastic to be processed, one or more procedures or technologies will be integrated for the separation of PBDE from non PBDE plastic. These could include manual separation, XRF, sliding spark, sink and float, etc. It has to be considered that the plastic received from authorized ELV and WEEE dismantlers will be already delivered in 2 separate streams (BFR free and BFR contaminated), therefore the additional segregation equipment installed at plastic recycling company shall be used only for the plastic received from other sources. In the selection of the equipment it has to be considered that the screening equipment shall be capable to detect bromine in plastic at a concentration below 1000 ppm.

162. The sensitivity threshold of the technology will be checked in a first experimental stage, where positive plastic samples will be re-checked through GC/MS analysis. Based on the result of the GC/MS, a threshold limit for the XRF will be confirmed. It may be however envisaged that the XRF technology would be able to identify plastic with a 0.1% (1000 ppm) concentration of BFR, as required for PBDE by the EU-REACh regulation (see output 3.7 below). It is expected that at least 1000 tons of plastic will be screened for the content of bromine.

163. In the absence of SC or BC threshold limit, the 0.1% concentration limit for PBDE established under the European REACh regulation being proposed for deca-BDE in plastic will be adopted. Plastic waste containing PBDE at a concentration higher than the EU REACh regulation 0.1% (1000 ppm) will not be used for recycling but will be segregated for final disposal.

164. For the non-POPs plastics the chemical content and physical properties will further be characterized to determine the product quality and to define is the end of use the plastic, e.g. recycling to create pellets. This analysis of the desired end products will be carried out once te inventory of the WEEE and ELV products and their plastic waste has been completed.

Output 3.1.7 Final disposal of plastic materials possibly containing PBDE dismantled from 1,000 tons of PBDE containing waste.

165. In plastic items such as the CRT monitor casing, PBDE flame retardants are held in place physically rather than chemically-bonded to the plastic material. Hence, the PBDE can be theoretically recovered via appropriate extraction procedures and subsequently treated. Currently, however, there are no commercially available technologies for the destruction of PBDE identified except incineration or possibly co-processing. Furthermore, it has to be considered that for PBDE neither the Stockholm nor the Basel convention has established an upper limit above which non-destruction technologies are allowed or recommended. This is also reflected in the EU regulation on POPs, which states that “in view of the lack of comprehensive scientific information on quantities and concentrations in articles and wastes, as well as exposure scenarios, at this stage, no maximum concentration limits can be established for polybrominated diphenyl ethers”.

Activity 3.1.7.1: Procurement of equipment for the final disposal of plastics containing PBDE and lead-contaminated glass

166. Based on the above information, and considering that cement kiln for using POP-PBDE potentially as alternative fuel are not avaibale in Cote d’Ivoire, the following options for final disposal will be further explored for cost-benefit analysis during implementation:

167. Plastic waste containing PBDEs at a concentration higher than the EU REACh regulation 0.1% (1000 ppm) will be finally disposed of using one the following options

a. Safeguarded, packaged and stored in dedicated engineered landfills;

b. Exported abroad for incineration or co-processing in cement kilns.
The final disposal option will be made based on a cost-benefit analysis of all possible solutions.

168. In addition to - plastics containing PBDE, there is a need to address the disposal of lead-contaminated glass which will be segregated during the processing of CRT monitors. Lead-containing glass (the funnel glas) represents around 19% of the weight of the CRT monitor.

169. All other materials coming from the disposal of WEEE (including CRT monitors and ELV (metal, wire, non-lead glass materials) are recyclable wastes that can be easiliy placed as tradable product on the market.

Output 3.8. Strengthening of women's entrepreneurship in the dismantling of WEEE and ELV

Activity 3.1.8.1: Implementation of training events on entrepreneurship and business opportunities for women in the WEEE and ELV Sector

170. Training events focusing on women in entrepreneurship and business models in the WEEE and ELV recycling sector are conducted to ensure women's prosperous participation in the WEEE and ELV sector.

Outcome 4: Project impact properly monitored and project results evaluated

171. Project monitoring and evaluation (M&E) will be conducted in accordance with UNIDO's established guidelines for conducting terminals evaluations of GEF-funded projects and GEF procedures. The M&E activities are planned according to the M&E budget in section C. Monitoring will be based on indicators defined within the project results framework and complemented by the annual work plans. The GEF core indicators will also be used as a monitoring and evaluation tool.

172. Daily monitoring of the project activities in the field will be done by the National Project Coordinator (NPC) and supervised by UNIDO's project manager based on the approved Annual Work Plan (in line with the CEO approval and GEF guidelines) and its indicators. The national project team in conjunction with the UNIDO Project Manager will be responsible for the preparation and submission of reports described in section C for the Project Monitoring Reporting.

173. The evaluation of the project will involve a mid-term review performed by an independent consultant and an independent evaluation, which will take place within 6 months before project completion.

174. Please refer to Monitoring and Evaluation in Section C.

3. Incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, CBIT and co-financing;

A summary of baseline, incremental cost reasoning and co-financing are provided in the following table:

Baseline	**Alternative Project Scenario**
Component 1. Legal framework and institutional capacities	
The existing legal instrument aimed at the management of hazard waste potentially contaminated by POPs, including chemicals, electrical and electronic wastes and end-of-life vehicles do not contain specific provisions for POPs and are poorly enforced. A regulation on the management of industrial waste is missing. A formal training plan on POPs issues in the WEEE and ELV sector is missing, although AFECAMCI and its NGO plans to raise awareness of their members (training for 300 members over 6 months). Workshops were carried out under the Clic Vert initiative in Burkina Faso, Benin, Niger, Cote d'Ivoire and Cameroon in partnership with Orange and Emmaus International. A significant gender divide affect the sector of WEEE and ELV, where males have access to most of the job and business opportunities, although in an unregulated and risky sector. Co-financing: US$ 4,000,000	The legal and institutional framework will be revised to include sound management of POPs, PBDEs and unintentional POPs in particular. Provisions related to the management of hazardous waste potentially contaminated by POPs will be developed and demonstrated, including a regulation on the Hazardous Waste Manifest System and the upgrading of regulations on WEEE and ELV. A regulation establishing a platform for the exchange of excess material will be also developed, with the aim to reduce the generation of waste and to increase segregation of POPs from non-POPs waste. The ongoing and planned training effort will be integrated and supplemented through training and capacity building initiatives for institutional and private stakeholders, including recyclers of WEEE and ELV, custom officers, environmental authorities. Information, sensibilisation and participation in activities for women will be developed. GEF Grant sought: 113,500 USD
Component 2. Upgrading the technical capacity for the sound management of PBDEs and reduced unintentional POPs emissions	

Based on the PBDE inventory carried out under the NIP upgrade, the sectors of WEEE and ELV may release a significant amount of POP PBDE and U-POPs in the environment. Is estimated that around 2000 tons of WEEE are imported yearly in the country. The management of WEEE is carried out mostly informally, with limited or no attention paid to prevent the release of POPs and U-POPs in the environment through dumping and open-burning of plastic and zero-value parts. The current WEEE and ELV occurs in an environmentally unsound manner. There is lack of technical capacity for environmental monitoring for U-POPs and PBDEs, environmentally sound dismantling, no safety operations and technical guidance on economic business models taking into account valuable materials contained in WEEE and ELV. Co-financing: US$ 27,875,237	Through component 2, the project will support the country in upgrading the technical capacity for the sound management of PBDEs and unintentional POPs. The monitoring capacity will be strengthened through training of laboratory staff, upgrading of laboratory equipment and accreditation. A sampling and analytical survey on the content of PBDE will be conducted. In addition, the plan is to act simultaneously on the 2 sectors of ELV and WEEE recycling, through development of guidelines, awareness raising and training, promotion of the shifting from informal to formal management of ELV and WEEE streams, upgrading of facilities were ELV and WEEE are disassembled and separated. More specifically, the upgrade of ELV recycling facilities will include the need of removing all the hazardous material and material potentially contaminated by POPs, and therefore it will include: dedicated storage area for the hazardous waste (battery, oil, liquids) and containers for different waste streams, crane bridges and cutting tools, shredders for foam and plastic, shredder for glass, steel wire remover for ELT, computerized databases for the classification of valuable spare parts. The upgrading of WEEE recycling centers will mostly aim at facilitating the dismantling of WEEE and separate plastic material possibly contaminated by POPs from other materials. This will require conveyor belts, semi-automated dismantling operations, separate storages, screening, crushing, sieving etc. in such a way that WEEE are dismantled into different streams which can be either directly recycled (=valuable parts) through national or international recyclers or finally disposed of (=POPs-PBDE containing parts). In both cases, equipment for increasing the level of protection of workers and environment will be demonstrated and established. GEF Grant sought: 1,890,000 USD
Component 3: Establishment of business operation with sound management of plastic materials	

The plastic generated by the WEEE and ELV sector is not recycled, but in most of the cases it is dumped or burnt in the open. Some plastic contained in ELV is accidentally processed in the iron and steel facility as the segregation from the ELV is poor. CIPLAST is a large plastic recycling plant installed since around 20 years. The structure receives on average between 3 and 5 tons of plastic waste per day (mainly old plastic buckets, polyethylene, PVC etc. packaging) but it does not process plastic from WEEE or ELV. However, no procedure for checking the quality of the input plastic waste is established. For finished products, it has adequate machinery for the manufacture of agricultural equipment (rubber, cocoa and coffee culture). Its waste comes from FILTISAC partners, Lebanese companies but not private individuals. The waste is then sorted, cut, cleaned, melted, granulated and molded to produce the various products, including buckets, basins, jars of rubber sap, tarpaulins, nursery bags, etc. Co-financing: US$ 31,089,967	To ensure sustainability of operations, the whole sector of WEEE and ELV recycling need to be optimized so that the incremental revenue generated through the improved efficiency can compensate the additional costs associated with the characterization and disposal of POPs waste. Therefore, under component 3, the project will create a sound management of plastic materials from E-waste and End-of-life vehicles through the setting up a plastic recycling business operation. Under this outcome the project will therefore move in three directions: 1) training and awareness raising by providing information on how the sectors of plastic, in addition to the sectors of WEEE and ELV recycling can be upgraded to improve their efficiency, environmentally safe operation, and expanding their market; 2) improving operations and equipment of plastic recycling installations; 3) demonstrating – from the technical and financial standpoint – the operation of characterization, segregation and disposal of POPs contaminated plastics. The cost of characterizing and disposing POPs containing plastic cannot be compensated by the revenue generated only by the plastic recycling. GEF grant sought: 2,771,500 USD

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

175. The project is expected to achieve finally dispose of POPs-PBDE-containing plastics from WEEE and ELV. This is essential to minimize or even eliminate exposure to POP-PBDE and u-POPs of stakeholders directly involved in the disposal, dismantling, and recycling of WEEE and ELV, as well as those who may be exposed due to their lack of awareness on risks and those in close proximity to contaminated sites. Successful implementation of the project components will contribute significantly to the global environmental benefit of reducing risks to human health. Improper disposal of WEEE and ELV to landfill sites could be eliminated through implementation of the project, thereby avoiding pollution of groundwater and surface water as well as emission of toxic fumes to the atmosphere. As such, ecosystems are protected, while biodiversity is also preserved.

176. The project will improve dismantling and recycling process of the WEEE and ELVs plastic-containing parts. For this purpose, the project will demonstrate the proper processing of at least 90,100 tons of WEEE and ELV waste, divided into 90,000 tons of ELV (60,000 vehicles) and 100 tons of WEEE:

· From ELV: 11,250 kg of deca-PBDE for 60,000 vehicles (1 vehicle 187.5g), based on the assumption of 0,625g/kg plastic in ELV, for 20% plastic components over the average weight of 1.5 tons of a vehicle; and around 555,6 kg of c-penta POP-PBDEs for 60,000 vehicles calculated as following: 0,16kg PBDE per car; regional factor for USA cars = 0.5; regional factor for non-USA cars = 0.05; share of USA vs non-USA vehicles = 1.75/98.25 %.

· Core Indicators (in metric tons): 11,250 kg of deca-PBDE= 12,4 tons; and 555,6 kg of c-penta BDEs= 0,6 tons of c-penta BDEs. Total 13 tons of POP-BDEs.

- From WEEE: Based on the calculation from the inventory and estimates of deca-BDE performed later, the average amount of c-OctaBDE is 2.54 (kg c-octa/tonne of EEE) and for deca-BDE is 1.00 (kg of deca/ton of EEE). The expected release reduction for the processing of around 100 tons of WEEE (mainly CRT monitors) will be therefore 254 kg of c-octa BDE (0.28 tons) and 100 kg (0.1 tons) of deca-POP-BDE.

· Core Indicators (in metric tons): 354 kg POP-BDE= 0.38 tons of POP-BDEs.

· Total GEBs: 13,38 tons POP-BDEs.

177. Preventing the open burning of 130 tons of plastic (calculated as an average of 30 tons from WEEE and 100 tons from ELV) will allow for a maximum direct reduction of 12000µgTEQ x 130 tons of plastic = 1.56gTeq assuming an emission factor equal to the one adopted in the UNEP toolkit for the open burning of cables.

5. Innovativeness, sustainability and potential for scaling up

Innovativeness:

· The need for environmentally sound management of ELV and WEEE emerged recently in Cote d'Ivoire, and requires innovative approaches for WEEE and ELV collection, dismantling and recycling. The segregation of plastic contaminated by POPs from non contaminated plastic in the recycling sector requires innovative technologies which are relatively new not only to the country but also worldwide.

· The project will develop innovative solutions to ensure that the process of segregation of POPs contaminated waste will not affect the sustainability of the recycling operations. In the case of ELV, the suitability of post-shredding technologies will be explored to avoid the manual dismantling of plastic components treated with PBDE, as it has been demonstrated that these technologies can separate fractions with high and low PBDE content.

Sustainability:

· Business and technological processes of private operators will be improved to compensate the additional costs of segregating plastics contaminated by POPs from non contaminated plastics. The project will develop private partnerships with plastic recycler in order to improve the added value at the end of the value chain, that will positively impact the rest of the sector. The project will investigate the possibility to mobilize funding from the financial institutions to support technology upgrade and investment for the sound environmental management of WEEE and ELV.

Potential for scaling-up:

· Participation of Cote d'Ivoire representative to the 2020 regional e-waste conference in Ghana may encourage knowledge sharing and replication of similar projects in other countries of the region experiencing the same challenges with ewaste and ELV management. Study tours in Ghana could also increase potential for scaling-up.

· The presence of SGS in the country and the future implemention of their Renovo solution has the potential to scale up sectoral change at country-level. Complementarity of both initiatives at the technical level was recognized by the Ministry of Environment and SAR. SGS is currently implementing similar projects on ewaste management in the region, i.e. in Ghana, bringing potential for replication at regional-level through knowledge-sharing and technology transfer. Possibility to create joint approached to be replicated in other countries of the region is being finalized in the form of a Memorandum of Understanding between SGS and UNIDO.

A.2. Child Project?

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

not applicable

A.3. Stakeholders

Please provide the Stakeholder Engagement Plan or equivalent assessment.

Stakeholders	Roles and Responsibilities in Project Preparation
Government Partners	
Ministry of Environment and Sustainable Development	Project's main executing partner. Responsibilities as outlined in the ToR for the execution contract, The project management unit will be set-up in the Ministry. A sub-contract for execution of activities will be given
Ministry in charge of Energy and Mineral resources Ministry of Finance (Directorate General of Customs) Ministry of Industry	National executing partner will be involved in the development of national standards on PBDEs content articles. Representatives of this ministry will be part of the Technical Review Committee

Local governments	Local governments will participate to the identification and designation of disposal areas for PBDEs containing wastes ; put in place mitigation measures and best approaches to reduce/avoid harmful releases ; collaborate with recycling entities in the selection and implementation of appropriate collection schemes ; train workers in personal protection measures and safe working conditions
	Implement control of WEEE at the entrances and exits of the country including plastics and end-of-life vehicles. Local governmenents will also contribute to customs capacity building. Local governments will be part of the Technical Review Committee, as appropriate.
Customs	Customs will contribute to implementing control at the entrances and exits of the country of WEEE including plastics and end-of-life vehicles and participate to capacity building activities. Customs will also be part of the Technical Review Committee
National laboratory	One national laboratory will be involved in the analytics of selected POP-PBDE WEEE and ELV samples .
Civil Society Organizations (CSOs), particularly Local Private Sector Associations	
AFECAMCI	AFECAMCI will play a critical role during the baseline and national inventory, based on their knowledge of the sector and the activities of their member ; they will be involved in training activities and knowledge management. Support the dissemination of the project's lessons – learned as well as the project replication effort. AFECAMCI will be part of the Technical Review Committee
MESAD	MESAD will play a particular role in awareness raising activities targeted towards the informal sector, workers as well as in the dissemination of lessons – learnt of best practices.
Neighboring populations of the scrap dealer sites and the general public	Local populations will play an active role in awareness raising and diffusion of information. Project will keep neighboring populations actively involved throughout implementation
Private sector, investors	
Ciplast, ACIERIES, EOULEE HOLDING GROUP	Private sector stakeholder will implement BEP/BAT adhering technologies for plastic sorting, processing and better recycling ; work with municipalities to decide upon appropriate collection schemes of plastics (PBDE Containing) waste fractions ; support the project in further developing supply chains. Will be part of project's training activities. Representatives of the identified partners of the private sector will be part of the Technical Review Committee

Documents

Title Submitted

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

Select what role civil society will play in the project:

Consulted only; Yes

Member of Advisory Body; Contractor;

Co-financier;

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

Executor or co-executor;

Other (Please explain) Yes

Inclusion into awareness raising events

A.4. Gender Equality and Women's Empowerment

Please briefly include below any gender dimensions relevant to the project, and any plans to address gender in project design (e.g. gender analysis).

1. UNIDOs gender policy (UNIDO/DGB/(M).110/Rev.1) recognizes that gender equality and the empowerment of women have a significant positive impact on sustained economic growth and inclusive and sustainable industrial development (ISID), which are drivers of poverty reduction, social integration and environmental sustainability.
2. As articulated in the UNIDO's guide on gender mainstreaming for environmental management projects, there are indisputably physiological differences, between women and men, in influence susceptibility to health damage from exposure to toxic chemicals. In addition, social factors primarily gender-determined occupational roles, also have an impact on the level and frequency of exposure to toxic chemicals, the kinds of chemicals encountered, and the resulting impacts on human health. This difference in human health risks between women and men will be emphasized during the awareness raising events and technical trainings.
3. During PPG a gender analyis (Annex I) and gender action plan (Annex I) for the project were developed by a national gender expert to study the current situation of gender within the project scope and to propose gender activities for project implementation. The gender analysis combined desk research with field surveys and interviews with key players in the scrap yard sector including WEEE and ELVs.
4. Results showed that the Government has ratified severed policies on strengthening gender mainstreaming, notably: the inclusion of gender in the 2000 constitution and the 2016 Constitution; the ratification of inter alia, the United Nations Convention on the Elimination of All Forms of Discrimination against Women (CEDAW, 1995) and the State's adherence to the declaration in the Beijing Plan of Action. However, results also showed that gender mainstreaming is not yet effective at the sectorial level. In fact, the gender

analysis of certain international and national frameworks related to industrial waste, POPs and PBDEs shows that different roles of men and women are not taken into account yet. This means that the information in the existing framework is only aggregated by the use of terms including: community, actors, population, and citizen, public and human.

5. In the sector of dismantling of electrical and electronic equipment and end-of-life vehicles women are only represented by around 16%. There is also an under representation of women in the decision-making sphere. It appears from the interview with AFECAMCI that there is only even one woman working in an administrative function.

6. In the sector of dismantling and processing of end-of-life vehicles 93% are men compared to 7% of women. However, women are have a higher representation in the collection of scrap which are around 43% and men are represented by 57%. The collection of end-of-life vehicles is mostly done with personal protective equipment (PPE) because consultation showed that 74% of the men and women without PPE.

7. In addition, the Gender Analysis also shows that 33% women are involved in the sale of spare parts, 20% in the supply of waste as raw materials, 16% in the trade of finished products resulting from recycling and finally 16% in the restoration of the scrap area. For recycling and more specifically the manufacture of household utensils and household products from end-of-life vehicles, the Gender Analysis showed that 83% were men and 17% were women.

8. Concerning risks to human health it seems that 77% of the men and women are aware of potential health effect when collection, dismantling and disposing of WEEE and ELV scrap, however, the majority do not link these problems to toxic effects of uPOPs and PBDEs.

9. In the WEEE sector, the gender analysis showed a reprensentation of 95% of men versus 5% of women in general. However, exemption were at CIPLAST, a company recycling non-biodegradable plastic bags, with a representation of 55% men versus 45% women.

10. Based on the results of the gender analysis, the following four main gener gaps towards achieveing better gender mainstreaming and socio-economic benefits have been identified:

· low female rates in decommissioning sectors;

· low rates of women in the decision-making sphere;

· low female rates in the WEEE and ELV recovery chain across all segments (spare parts trade, provision of waste as raw materials, trade in finished products from recycling, recycling, waste picking).

· lack of knowledge about the dangerous effects of POPs on human health, including limited use of PPE.

11. In order to address the identified gaps, a gender action plan (Annex I) including recommendations and strategies have been formulated. These recommendations include (1) improving the participation of women in the WEEE and ELV decommissioning sectors across; (2) the development of gender-sensitive information relevant for sound WEEE and ELV management; (3) awareness-raising and training of the men and women on WEEE and ELV BEP, especially during manual dismantling, processing and recycling/re-use practices according to the Stockholm Convention; (4) using PPE during the life-cycle of WEEE and ELV management; (5) strengthen women's technical and managerial capacities for WEEE and ELV management to generate socio-economic benefits for women.

12. Following these recommendations the three strategic axes were developed and incorporated into the projects outputs:

· Strategic Activity 1: Information and sensibilisation: Output 1.5. Information and sensibilisation of women and children involved in the WEEE and ELV, especially regarding (collection, dismantling and sorting, raised

· Strategic Activity 2: Specific training activities: Output 2.7. Detailed mapping of the conditions of women and children working in within the sector to carry out specified training activities

· Strategic Activity 3: Strengthening of women's entrepreneurship in the dismantling of WEEE and ELV: Output 3.8. Strengthening of women's entrepreneurship in the dismantling of WEEE and ELV

13. In conclusion, this gender study is to make it possible, over the project duration to strengthen the participation of women in the sector of the dismantling of WEEE and end-of-life vehicles as well as to reduce the impact on health and the environment, with a view to creating green jobs.

Documents

Title	Submitted

Annex I Gender Analysis and Action Plan

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

Yes

If yes, please upload document or equivalent here

See uploaded document

If possible, indicate in which results area(s) the project is expected to contribute to gender equality:

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

Improving women's participation and decision making Yes

Generating socio-economic benefits or services or women Yes

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

Yes

please see project's results framework

A.5. Risks

Elaborate on indicated risks, including climate change, potential social and environmental risks that might prevent the project objectives from being, achieved, and, if possible, the proposedmeasures that address these risks at the time of project implementation.

Risk	Level	Mitigation
The proposed regulatory framework is not adopted and/or enforced properly.	Low	Engage decision makers early on in the project preparation and implementation. The national execution agency will be tasked to expedite this project by setting this task as a deliverable.

Delayed response of some key stakeholders may hinder the project implementation.	Low	The Project Steering Committee and Technical Review Committee will be consulted to establish the institutional linkages among the stakeholders, and will consult with executing partners and major stakeholders to ensure their involvement and ownership of the project.
Reluctance of some local populations to be involved in waste sorting due to stigma about completing such a task, considering it an activity only for waste collectors.	Medium	Public awareness campaigns about the need for collective action on waste management will be launched. People will be informed about the important role they play in the process using a participatory outreach approach.
Slow coordination between UNIDO, Ministry and SGS-SAR	Medium	During PPG phase, UNIDO, the Ministry and SGS have started consultations building synergies and practical cooperation between this project, the potential SGS-SAR intervention and the existing national formal and informal WEEE and ELV sector to ensure that the value chain will be optimized and existing structures will not be harmed. In a letter from March 23 2019, Ministry of Environment stated his support to a coordinated action in the country. In addition, SAR's co-financing letter also underpinned the technical cooperation on this project. During project implementation, consultations and agreeements will continute in a participatory approach to ensure that project objectives reach their intended audiences. Convincing evidence will be presented to demonstrate the beneficial, long-term effects of sustainable WEEE and ELV interventions among all involved parties.
Segregation of PBDE plastic in WEEE and ELV could prove too expensive to be sustainable in the waste recycling operations	Medium	The project will preliminary assess different segregation modalities to identify the operational procedures which at the same time can maximize the effectiveness of segregation
The amount of POPs contaminated E-waste and ELV disposed in an environmentally sound manner not reaching the project target.	Medium	In elaborating estimates on POP-PBDE inventory a conservative approach has been adopted, therefore the risk is limited to the capacity of the actors involved to collect , segregate and dispose the target amount of waste. To minimize this risk the project envisages specific capacity building and infrastructure upgrading activities.
Uncertainties in the concentration of POP PBDEs in waste plastics	Medium	Br readings from the XRF will be taken as an estimate of the total amount of POP-PBDE concentration. Confirmation through sampling and analysis of a significant amount of plastic in laboratory will allow to recalibrate the XRF estimate and to provide a more precise estimate.
(Climate Risk) The selected project sites may suffer from the unexpected weather related disaster such as floods	Low	The site selection will look into the elevation of the projec site as well as the weather related risks.

A.6. Institutional Arrangement and Coordination

Describe the Institutional arrangementfor project implementation. Elaborate on the planned coordination with other relevant GEF-financed projects and other initiatives.

· GEF-funded MSW Industrial Sorting and Composting Project in Akouédo – The MSW Industrial Sorting and Composting project in Akouédo, (funded in part by the GEF under its technology transfer for climate change window) has a component for the household separation of waste according to their various compositions. The private company GROUPE EOULEE working with the Government on project implementation has elaborated an integrated sustainable plan for the management of MSW in the District of Abidjan. The implementation of this project will greatly contribute to an efficient collection of MSW, including e-waste as well as safer disposal of e-waste. After implementation in Abidjan, the project will be replicated in three other major towns in the country.

191. The GEF Implementing Agency (IA) for this Project will be UNIDO, with headquarters in Vienna. UNIDO's Headquarter-based Project Manager will oversee project implementation and will work closely with the national UNIDO's field office on project monitoring and follow-up. As a GEF implementing agency, UNIDO will maintain the oversight on the project implementation, manage the overall project budget and supervise the project execution.

192. The national Executing Agency (NEA) will be the Ministry of Environment, Environment and Sustainable Development Branch (Direction de l'Environnement et du développement Durable), UNITAR and the World Resources Forum (WRF), which all will enter into contractual arrangements for project execution activities, including PMU, with UNIDO.

193. The Ministry of Environment, Environment and Sustainable Development Branch (Direction de l'Environnement et du développement Durable) will enter into contractual arrangements with UNIDO, initially for policy and capacity building activities as well as day-to-day project managerial tasks included in all projects outputs. UNIDO as the Implementing Agency will involve the GEF Operational Focal Point and project stakeholders at all stages of the project monitoring and evaluation activities in order to ensure the use of the evaluation results for further planning and implementation. According to the Monitoring and Evaluation policy of the GEF and UNIDO, follow-up studies like Country portfolio evaluations and thematic evaluations can be initiated and conducted. All project partners and contractors are obliged to (i) make available studies, provide reports or other documentation related to the project and (ii) facilitate interviews with staff involved in the project activities.

194. UNITAR is a supplementary UN executing entity that is tasked to carry our training and guideline development activities. UNIDO will enter into contractual arrangements with UNITAR for develiverables under component 2 and 3, which might include (but not limited to) development of techcnial guidelines for business operations, trainings for various stakeholders on various project-related topics and others. Final ToR to be developed upon project approval.

195. WRF has a long track record in leading cooperation projects focusing on e-waste and other special waste with developing counrties, including various Africa countries. WRF is also currently engaged under the Swiss funded Sustainable Recycling Industries project (Ghana, Egypt, South Africa, Colombia, Peru) and the German funded GIZ Ghana e-waste project, from where relevant synergies could be leveraged for the envisaged GEF project in Côte d'Ivoire. WRF will enter into contractual arrangements for develiverables under component 2 and 3, which might include (but not limited to) development of techcnial support documents, support for business model development and business plan calculation, strategies for inclusiveness of the informal sector and/or other capacity-building processes. Final ToR to be developed upon project approval.

196. The project will establish a Project Steering Committee (PSC), which will consist of UNIDO, the Ministry of Environment, Environment and Sustainable Development Branch and other selected stakeholders leading project execution activities to be appointed during project implementation start. The Project Steering Committee will contribute to supervising the overall implementation of the project in line with requirements of project document. Any changes/amendments proposed to be done by the Project Steering Committee to the project and/or to the AWP or budgets should be done in accordance with approved project document and GEF policy.

197. A Technical Advisory Committee (TAC), chaired by the Project Coordinator, will be established for providing technical and practical input and coordination for project execution. The Technical Advisory Committee will consits of UNIDO, UNITAR, WRF, Acieries de Cote d'Ivoire, CIPLAST, AFECAMCI, University Felix Houphouet Boigny, CIAPOL, EOULEE, and other selected stakeholders as appointed during project implementation start. The TAC will advise on technical issues during project implementation.

198. In addition, as requested by the national counterparts including the GEF-OFP, UNIDO will provide execution support for the procurement of goods and services, as well as recruitment of technical experts, monitoring and evaluation functions (Annex J). Full or partial title and ownership of equipment purchased under the project may be transferred to national counterparts and/or project beneficiaries during the project implementation as deemed appropriate by the UNIDO Project Manager in consultation with project stakeholders.

199. The project will further set-up a national Project Management Unit (PMU) which will be responsible for the overall coordination of project operations and day-to-day monitoring activities, including updating indicators to measure progress and addressing potential barriers in advance in order to respond to important project milestones in a timely manner.

200. The PMU may consist at least of a National Project Coordinator (NPC), a Technical Coordinating Assistant (TCA), national experts in chemicals and waste legislation, BAT/BEP as well as a national gender expert in addition to other national experts for selected project activities. The PMU will be hosted at the Ministry of Environment. The National Executing Agency (NEA) will be responsible for the process of nominating / recruiting national project staff and organizing the project management framework. NEA will facilitate the establishment of appropriate offices and communication facilities within the allocated budget and co-financing contributions.

201. The NPC will work closely with the GEF Operational Focal Point, the POP focal point and the UNIDO Project Manager at Headquarters. The NPC will be covered by the project funds and will be responsible for the quality of the results of the preparatory phase of the project. The NPC ensures the smooth execution of the project at a high political level. The NPC will act as the secretariat of the PSC, chaired by the National Project Director, and provides institutional support and strategic direction for the project.

202. UNIDO may also enter into other contractual agreements with selected national, regional and global institutions to support the execution of specific project outputs, particularly those that may require international experts or international bidding procedures for WEEE and ELV separation or final disposal.

Additional Information not well elaborated at PIF Stage:

A.7. Benefits

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

203. The GEF-UNIDO project targets the traceability and control of POPs from end-of-life vehicles and WEEE. It should be noted that these two sources of POPs (DF and PBDEs) are also two major sectors for the social and industrial economy.

204. Thus, the end-of-life EEE are collected by pickers and then dismantled by scrap dealers or specialists to remove metals with high added value for the local market (aluminum, copper) or export (gold, nickel ...) .

205. In addition to the raw material extracted from it, the WEEE sector also supplies spare parts for the restoration of defective equipment, which avoids the Ivorian economy the massive importation of new equipment.

206. It is difficult to estimate the turnover of the sector with precision, but note that the visit to the site of Marcory has reported that it houses 400 stores each providing ten people. That is 4000 people who depend on the economy generated by this site. Assuming that each person does not earn more than 50% of the SMIC in Cote d'Ivoire, turnover by the site would be of the order of 1.5 billion FCFA / year.

207. End-of-life vehicles are an undeniable source of good quality sheet metal. This plate is used to make new utensils for households (buckets, feeders, ...) and provided the bulk of the raw material for the Cote d'Ivoire steel mill (ACI) up to 7000 t / month. This steel plant has declared a purchase price of scrap at 95 FCFA, ie, a turnover for intermediate scrap dealers in the order of 12 million euros per year. The share going to scrap-makers is 70% 3, or 8.5 million euros / year.

208. Assuming that each scrap metal earns the SMIC, the number of jobs would be in the order of 7000 jobs. To this would be added the transport sector which is essential for this sector both upstream and downstream.
price of reinforcing iron in the Ivorian market and the yield of this reinforcing iron, ACI would make a turnover4 of the order of 30 million euros, including a VAT for the state of the order of 5.4 on euros.
209. At the price of reinforcing iron in the Ivorian market and the yield of this reinforcing iron, ACI would make a turnover of the order of 30 million euros, including a VAT for the state of the order of 5.4 million euros.

A.8. Knowledge Management

Elaborate on the Knowledge management approach for the project, including, if any, plans for the project to learn from other relevant projects and initiatives (e.g. participate in trainings. conferences, stakeholder exchanges, virtual networks, project twinning) and plans for the project to assess and document ina user- friendly form (e.g. lessons learned briefs, engaging websites, guidebooks based on experience) and share these experiences and expertise (e.g. participate in community of practices, organize seminars, trainings and conferences) with relevant stakeholders.

210. At global level, UNIDO has projects dealing with the hazardous and electronic wastes in the region of West Africa and other parts of the world. The lessons learned from those projects have been reflected into the design and will be incorporated into the implementation of this project. This includes the technical guidelines on BAT/BEP, national policies, regulatory framework, training materials, training exercise in other projects. The international consultants who assisted other countries to develop these documents will be made available for this project so that her/his knowledge and experience will be directly shared for this project. Moreover the professional network and related resources stemming from previous meetings and discussion on this issue will be shared with the project counterpart, as UNIDO plays an important role in the area of e-waste and has hosted some key conferences.

211. Another knowledge to be shared among the UNIDO's relevant projects is the resources and experiences to guide the sector development by assisting the business investment decisions. The decision tool is originally developed by UNIDO and the training resources and teams are active in many parts of the world.
212. There is a Facebook page of the UNIDO`s Stockholm Convention Division where the project updates and milestone achievements will be posted.At regional, discussions were held during the PPG with a representative of the BMZ-funded ewaste programme "Recycling and Disposal of Waste of electrical equipment in an environmentally sound way" in Accra (Ghana). Discussions were held about the scope, status and current challenges to encourage knowledge-sharing at the preparation stage of the project. During implementation, knowledge-sharing could be further encouraged. At a minimum, Cote d'Ivoire representative will be invited for the 2020 regional ewaste conference in Ghana, and study tours will be planned.

213. In addition, joint initiatives and common approached are under preparation with the SGS project implemented in Cote d'Ivoire. Stakeholder exchanges and lessons learned will be documented for potential replication in other countries of the region, where e-waste management are challenging.

- At local level, the awareness raising publications will be in a local language and French with visualized contents to target the local communities who may not understand French or be illiterate.

B. Description of the consistency of the project with:

B.1. Consistency with National Priorities

Describe the consistency of the project with nation strategies and plans or reports and assessements under relevant conventions such as NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc.

· The National Implementation Plan for the Stockholm Convention of the country prioritized PCB, obsolete pesticide management, and unintentional POPs. The action plans and priorities being prepared for the updated NIP have also identified new POPs including e-waste as new priorities. This project is in line with the priorities of the original NIP and updated NIP draft. The updated NIP draft will be made available soon for endorsement by the key governmental stakeholders and subsequently submitted to the Secretariat of the Stockholm Convention.

C. Describe The Budgeted M & E Plan:

· Project monitoring and evaluation (M&E) will be conducted in accordance with UNIDO's established guidelines for conducting terminals evaluations of GEF-funded projects and GEF procedures. The M&E activities are planned in project component 4 according to the above M&E budget. Monitoring will be based on indicators defined within the project results framework and complemented by the annual work plans. The GEF core indicators will also be used as a monitoring and evaluation tool.

· UNIDO as the Implementing Agency will involve the GEF Operational Focal Point and project stakeholders at all stages of the project monitoring and evaluation activities in order to ensure the use of the evaluation results for further planning and implementation. According to the Monitoring and Evaluation policy of the GEF and UNIDO, follow-up studies like Country portfolio evaluations and thematic evaluations can be initiated and conducted. All project partners and contractors are obliged to (i) make available studies, provide reports or other documentation related to the project and (ii) facilitate interviews with staff involved in the project activities.

· A detailed schedule of project review meetings will be developed by the project management team in close consultations with the project implementation partners and stakeholders' representatives, and included in the Project Inception Report. In addition, gender-disaggregated data (Annex A) will be used to track gender equality results and assess gender impacts.

· Daily monitoring of the project activities in the field will be done by the National Project Coordinator (NPC) and supervised by UNIDO's project manager based on the approved Annual Work Plan (in line with the CEO approval and GEF guidelines) and its indicators. The Project Team will inform UNIDO of any delays or difficulties faced during the implementation so that the appropriate support or corrective measures can be adopted in a timely and preventative, rather than in a remedial manner.

· Project Monitoring Reporting: The national project team in conjunction with the UNIDO Project Manager will be responsible for the preparation and submission of the following reports:

· Inception Report: A Project Inception Report (IR) will be prepared immediately following the Inception Workshop. It will include a detailed First Year Annual Work Plan divided into quarterly timeframes, with detailed activities and progress indicators to guide the implementation during the first year of the project. The Work Plan will include the dates of specific field visits, support missions from UNIDO and/or UNIDO consultants, as well as timeframes for meetings of the project's decision-making structures. The report will also include the detailed project budget for the first full year of implementation, prepared on the basis of the Annual Work Plan, including any monitoring or evaluation requirement to effectively measure project performance during the targeted 12-month timeframe. When finalized, the report will be circulated to project counterparts, who will be given a period of one calendar month to respond with their comments or queries. Prior to IR circulation, UNIDO will review the document.

· Project Implementation Review: The Project Implementation Review (PIR) is an annual monitoring process mandated by the GEF. It is an essential management and monitoring tool for those responsible of the project and offers the main vehicle for extracting lessons from ongoing projects.

· Mid-term review: A mid-term review will be performed by an independent consultant(s). The evaluation will assess progress made towards achievement of project objectives and outcomes, and will propose project amendments, if needed. The evaluation will focus on project performance in terms of relevance, effectiveness, efficiency and timely implementation. Findings of this evaluation will be incorporated as recommendations for further project implementation during the second half of project duration. The TORs for this evaluation will be prepared by UNIDO based on the generic TORs developed by the UNIDO Evaluation Office.

· Independent Evaluation: The project will be subject to a mid-term review and a final terminal evaluation: An independent Final Evaluation will take place within 6 months before project completion. The final evaluation will also review impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental goals. The Final Evaluation should also provide recommendations for follow-up activities. The Terms of Reference for this evaluation will be prepared by UNIDO in accordance with the TORs developed by the UNIDO Evaluation Office.

· Legal clause for Cote d'Ivoire: "The preset project is governed by the provisions of the Standard Basic Cooperation Agreement between the Government of the Republic of Cote d'Ivoire and UNIDO, signed and entered into force on 7 March 1996".

M&E Activity Categories	Feeds Into	Time Frame	GEF Grant Budget ($US)	Co-financing Budget ($US)	Responsible Parties
Measurement of GEF core indicators	Terminal Evaluation Reports	At project completion	200,000	600,000	PMU provide draft reports for PCS approval; PSC submits Final drafts to UNIDO's PM
Mid-term review and Independent terminal evaluation	Mid-term review and Terminal Evaluation Review (TER) conducted by UNIDO EVA	Project completion	100,000	400,000	Independent evaluator, for submission to UNIDO PM and UNIDO ODG/EVA
Total indicative cost			**300,000**	**1,000,000**	

PART III: Certification by GEF partner agency(ies)

A. GEF Agency(ies) certification

GEF Agency Coordinator	Date	Project Contact Person	Telephone	Email
Mr. Philippe R. Schóltes Managing Director Programme Development and Technical Cooperation and UNIDO GEF Focal Point		Ms. Fatin Ali Mohamed	0043126026	F.Alimohamed@unido.org

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

Hierarchy of Objectives	Indicators	Baseline	Target	Sources of Verification	Assumptions

Hierarchy of Objectives	Indicators	Baseline	Target	Sources of Verification	Assumptions
Project Development Objective: Protection of human health and the environment through sound management of PBDEs and U-POPs associated with WEEE and ELV management.	Key indicators: # of gender mainstreamed environment policies, strategies, laws, regulation approved/enacted # of companies adopting best technologies/new technologies # of training participants # of male/female enrolled in new jobs. Quantity of the following safe - guarded: · POPs in consumer material,	Specific regulations for the Environmentally Sound Management of WEEE, ELV and recycled plastic, including gender dimensions, are missing Zero capacity currently available for the ESM segregation and disposal of POP-PBDEs or HBB containing E-waste No training for policy, technical and practical WEEE and ELV management provided Lack of formal job opportunities in the WEEE and ELV sectors No POPs – PDEs, HBB contained in WEEE and ELV properly disposed of. Around 166,300 tons of plastic potentially contaminated by PBDE existing in the country. Around 1.56 gTEQ/an	At least 8 WEEE, ELV and recycling plastic regulations, decrees and guidelines (under several outputs) with provisions on POP, also addressing gender issues approved/enacted 2 selected companies and 1 recycler provided with XRF,PPE and sorting equipment (output 2.1.5), 1 laboratory supported for accreditation (output 2.1.1), 1 selected plastic recycling company refurbished (output 3.1.5) At least 480 people trained under the outputs (excluding awareness raising events and gender events) At least 50 jobs created (60% male, 40% female) WEEE and ELV potentially contaminated by PBDEs treated at 2 upgraded facilities resultingin mentioned GEBs	See below	See below

Hierarchy of Objectives	Indicators	Baseline	Target	Sources of Verification	Assumptions
Component 1. Legal framework and institutional capacities					
Outcome 1.1 Legal and institutional framework revised for the sound management of POPs, PBDEs and unintentional POPs in particular	# of gender mainstreamed environment policies/guidelines approved/enacted relevant to WEEE and ELV management and plastic in the recycling chain # of training participants/trainees (male/female)	Specific regulations for the Environmentally Sound Management of WEEE, ELV and recycled plastic, including gender dimensions, are missing. Lack of training on WEEE and ELV management, including gender issues. .	6 WEEE, ELV and recycling plastic regulations/decrees with provisions on POP, also addressing gender issues, substances drafted and enacted. At least 80 people relevant stakeholders(60% male/40% female) trained At least 1000 people (60% male/40 % female) reached by awareness organizedevent/coaching sessions on WEEE and ELV management	Draft, and final versions of regulation and guidelines Meeting and workshop minutes. Participants list (female/male) Support documents for theaccreditation of the laboratory Communication material	Key stakeholders will actively participate in the process of regulatory improvement. GoCI committed to endorse or at least examine the new draft regulation developed under the project within project timeframe.

Hierarchy of Objectives	Indicators	Baseline	Target	Sources of Verification	Assumptions
Output 1.1.1 Relevant POPs elements incorporated into regulatory framework on the waste management based on the gap assessment carried out during PPG	Availability of draft regulations submitted for adoption concerning the management of industrial waste, classification of hazardous waste, waste exchange platform, implementation of the Basel Convention, ESM of WEEE and ELV, ESM of plastic waste, including gender dimensions.	The following regulation is missing: law on industrial waste; classification of hazardous waste; decree on excess material and waste exchange; decree for the implementation of the Basel Convention.. Two decrees on ESM of WEEE and ELV do exist although they do not include provisions on POPs.	Draft regulations submitted for adoption Draft regulations concerning the management of industrial waste, classification of hazardous waste, waste exchange platform, implementation of the Basel Convention, ESM of WEEE and ELV, ESM of plastic waste submitted for adoption by GoCI	Meeting and workshop minutes Participants list (female/male) Draft and final version of the proposed regulations. Official act of submission to the Council of Ministers	The government of Cote d'Ivoire is committed to strengthen the current regulations and enforcement of the regulation on ELV WEEE and plastic to integrate provisions related to POPs
Output 1.1.2 Institutional capacities assessed to strengthen the nationwide recycling industrial sector for the sound management of PBDEs and uPOPs	Availability of an assessment report and action plan	An assessment of the institutional capacity to understand the needs of the WEEE, ELV and plastic sector is needed and has been never been attempted before; thus no action plan	An assessment of institutional capacity and an action plan for the capacity strengthening of the relevant institutions on the sound management of PBDEs and uPOPs available	Meeting and workshop minutes Participants list (female/male) Draft and final version of the assessment report and action plan.	The institution assessed are committed to provide unbiased information on their capacity

Hierarchy of Objectives	Indicators	Baseline	Target	Sources of Verification	Assumptions
Output 1.1.3. Enforcement capacities enhanced, including inspection and a data tracking system	Availability of a draft decree on hazardous waste manifest. Availability of report on piloting HWM in ELV, WEEE and plastic recycling sector Number of youth cooperative established. Number of staff trained on issues related to the presence of contaminants in plastic (percentage of male/female trained) . Number of custom officer trained on importation of used vehicles and EEE (percentage of male/female trained). .	Hazardous waste manifest system completely missing in Cote d'Ivoire Recycling industry is not aware of the presence of POPs in WEEE, ELV and plastic. In the absence of rules for the implementation of Basel Convention, the custom is not informed on the issues associated with import of Basel Convention Formal job opportunities are missing in the area of collection, segregation and characterization of POPs contaminated plastic	Decree on hazardous waste manifest drafted and submitted to the Council of Ministers for approval. HWM piloted in ELV, WEEE and plastic recycling sector. At least 1 youth cooperative encouraged to be established, through capacity building, with equal enrollment among male and female, to demonstrate sound collection of WEEE and plastic. 40 staff (at least 40% female) trained on the issues related to the presence of contaminants in plastic. 40 custom officers (at least 40% female) trained on importation of used vehicles and EEE.	Meeting and workshop minutes. Draft and final version of the proposed regulations. Official act of submission to the Council of Ministers of the proposed regulations. Progress report of youth cooperative establishment Training reports, materials and participants list (female/male).	Key stakeholders will actively participate in the process of regulatory improvement. At least one laboratory can be identified with background capacity available to be upgraded to certification. Operators committed to pilot an HWM system despite it can initially slow down their activities.

Hierarchy of Objectives	Indicators	Baseline	Target	Sources of Verification	Assumptions
Output 1.1.4. Awareness raised among national government and municipal officials, private sector, and general public on PBDEs and uPOPs	Availability of a communication plan on POPs in plastic, WEEE and ELV; Number of awareness raising events conducted Number of awareness programs developed.	An awareness raising activity on POPs in plastic, WEEE and ELV was never conducted in the country.	A communication plan on POPs in plastic, ELV and WEEE prepared and implemented. At least 6 awareness raising events At least 1000 people (60% men and 40% women) reached through outreach and awareness raising events	Survey report for designing the communication plan. Report from awareness raising event. Awareness raising materials	Appropriate consultant / firms with high professionality and the capacity of conduct a synthesis between technical and communication matters will be available for the task. The information gathered during the survey will be kept as confidential and used for the sole purpose of the development of the communication plan. Male and female will be granted with the same opportunities to attend awareness raising events.
Output 1.1.5. Information and sensibilisation of women and children involved in the WEEE and ELV, especially regarding (collection, dismantling and sorting, raised	Number of communication materials developed and distributed Awareness-raising events on WEEE and ELV organized Number of people (Men/women) attending training and awareness events	There is no communication materials, awareness events on safe WEEE and ELV management	5000 distributed to relevant gender stakeholder groups 3 events organized At least 200 women reached	Communication material Participants list (female/male)	Willingness of the stakeholders to support and attend the awareness-raising events
Component 2. Upgrading the technical capacity for the sound management of PBDEs and reduced unintentional POPs emissions					

Hierarchy of Objectives	Indicators	Baseline	Target	Sources of Verification	Assumptions
Outcome 2.1. Upgrading e-waste and end-of-life vehicle dismantling sector to meet the revised national standard and strengthen business operations.	Number of training participants (male/female) to training on business management operations . # of companies adopting best technologies/new technologies Detailed PBDE inventory data	A significant capacity of ELV and WEEE dismantling / recycling exist in the country through several potential project partners, however the knowledge and capacity to manage in an ESM the ELV and WEEE is scarce, without focus on gender, if any. No companies are separating POPs and non-POPs plastics Sampling and analysis of waste material for the quantification of PBDEs and other POPs was never conducted in Cote d'Ivoire.	100 (20 from CIAPOL (10 female) and 80 operators (management) for relevant sectors) At least one ELV, and two WEEE dismantler upgraded Inventory available	Guidelines for the safe dismantling of ELV, WEEE, including report for the qualification of safety managers Meeting minutes Participants list (female/male) Data report	National operators are committed towards protects involvement

Hierarchy of Objectives	Indicators	Baseline	Target	Sources of Verification	Assumptions
Output 2.1.1. Baseline environmental monitoring for uPOPs and PBDEs established	Availability of guidelines for POPs monitoring Availability of sampling and analysis report Accreditation of laboratory available	International guidelines for POPs monitoring available, to be adapted to the country situation Monitoring data on U-POPs and PBDEs in plastic are scarce The capability of laboratories for undertaking analysis of POPs is limited.	National guidelines for sampling and analysis of U-POPs and POPs generated by ELV, WEEE and plastic waste issued. Extensive sampling and analytical survey of PBDE in the waste and the environment carried out. Support for accreditation of 1 national laboratory	Draft and final version of the guidelines for POPs monitoring. Sampling and analytical reports. Support documents for the laboratory	At least one national lab, with potential support from an international lab, available and contracted for undertaking the survey within the required timeframe.
Output 2.1.2. Technical guidelines on the business operation for sound and safe e-waste and end-of-life vehicle dismantling adopted	Availability of guidelines for the ESM management and business operation of WEEE and ESM dismantling	A number of international guidelines for the ESM dismantling of WEEE and ELV does exist. However these are mostly targeted to the situation of developed countries and need to be tailored to the IC situation.	One set of guidelines for the environmentally sound management of WEEE and one set of guidelines for the environmentally sound management of ELV developed	Draft and final version of the guidelines for the environmentally sound management of WEEE and ELV.	National and international consultants with the relevant qualifications and skills available to perform the required tasks.

Hierarchy of Objectives	Indicators	Baseline	Target	Sources of Verification	Assumptions
Output 2.1.3. Safety operation manager qualifications established at the national level	Number of CIAPOL staff (male/female) trained and qualified.	Despite a significant throughput of dismantling and recycling activity, there are no evidence that the recycling industry is aware of the issue associated with POPs in plastic, ELV and WEEE.	At least 20 CIAPOL staff (10 female) trained and qualified.	Meeting minutes Participants list (female/male)	CIAPOL staff willing to attend the trained and get qualified.
Output 2.1.4. Training on business management operation conducted for private sector	Availability of a training manual on business management operations. Number of operators trained	A training on business management operations and BAT/BEP never carried out before in IC	A training manual on business opportunities in the collection and sorting of ELV and WEEE drafted. At least 40 relevant WEEE and ELV trained (with equal gender share) on the guidelines and training material developed under outputs 2.1.2 and 2.1.	Meeting and workshop minutes. Training manual on business opportunities Training reports and training materials.	National and international consultants with the relevant qualifications and skills are available to perform the required tasks. Staff from the selected operators willing to attend the training
Output 2.1.5. E-waste and end-of-life vehicle operators selected on a competitive basis and refurbished	# of companies adopting best technologies/new technologies	The ELV and WEEE recycling operator do not have the technical capacity to segregate POP containing materials from non-POP	At least one ELV and two WEEE dismantler technically upgraded	Signed contract and their progress reports	The operators selected and refurbished will demonstrate sustainability of operations with the new equipment provided by the project.
Output 2.1.6. Reduction in emission of uPOPs and PBDEs estimated	Availability of a POPs reduction methodology and estimation report	NIP Baseline release have been revised during PPG stage. Estimation concerning deca-BDE are based on the EU risk assessment	Expected reduction of U-POPs, based on the UNEP toolkit (open burning of plastic wires) can be estimated in …g/TEQ PBDEs in kg	Methodological report on the calculation of U-POPs and PBDE reduction developed Estimation report on the amount of U-POPs and PBDEs prevented.	There are significant uncertainties related to the estimation of both U-POPs and PBDE that cannot be addressed under this project. However it is assumed that the impact of the uncertainties associated to the estimation can be evaluated.

Hierarchy of Objectives	Indicators	Baseline	Target	Sources of Verification	Assumptions
Output 2.1.7. Elaboration and mapping of the conditions of women and children working in the sector, mapping to carry out specified capacity building activities	Availability of a report on mapping the conditions of women and children in the recycling of waste Capacity-building based events carried out	No report aimed at mapping the conditions of women and children in the recycling of waste currently available in the country. No capacity-building events	A report containing a detailed mapping of gender dimensions in the WEEE and ELV sectors in order to reduce risk for women and children , and identify building capacity needs. Three capacity-building workshops for scrap collectors, scrap dealers (50 participants total per workshop, female), business owners etc, covering the Stockholm Convention, BAT/BEP of WEEE and ELV, PPE and business models organized	Report on the detailed mapping of gender dimension in WEEE and ELV Training minutes Participants list (female)	National experts with a good understanding of the situation of women and children in the sector are assumed to work together with international experts on gender dimension to deliver the best results.
Component 3: Establishment of business operation with sound management of plastic materials					

Hierarchy of Objectives	Indicators	Baseline	Target	Sources of Verification	Assumptions
Outcome 3.1. Sound management of plastic materials from e-waste and end-of-life vehicles improved by setting up an environmentally sound recycling business operation	# of companies adopting best technologies/new technologies # of gender mainstreamed environment policies, strategies, laws, regulations approved/enacted Quantity of the following safe - guarded: · uPOPs (mg) · POPs in consumer material, BFR (tonnes) Number of people trained (male/ female)	Zero plastic waste contaminated by PBDE has been disposed of in an ESM, instead it is mostly burnt or abandoned in the open. WEEE and ELV valuable plastics have not been recycled or reused (tonnes)	1 company refurbished with equipment for the sound management of plastic waste # Technical guidelines on BAT/BEP for the sound management of plastic waste Plastic from ELV and WEEE screened for the BFR content, out of which the plastic with a BFR content exceeding 1000 ppm finally disposed of. 100 government and municipalities (70 women) will be trained under output 3.1.2	Partnership agreement Certification of final disposal of POPs waste and Hazardous Waste Manifests.	It is assumed that the available budget for collection and disposal of hazardous waste will be enough to destroy the plastic found contaminated by PBDE at a concentration exceeding 1000 ppm.
Output 3.1.1 Technical guidelines on BAT/BEP adopted for the sound management of plastic wastes by the waste management operators.	Availability of technical guidelines on BAT/BEP for the sound management of plastic waste	International guidelines to be adapted to the IC situation are available	Guidelines on BAT/BEP for the sound management of plastic wastes drafted and endorsed.	Guideline documents, meeting and workshop reports	National and international consultants with the relevant qualifications and skills are available to perform the required tasks.

Hierarchy of Objectives	Indicators	Baseline	Target	Sources of Verification	Assumptions
Output 3. 1.2 Trainings for national governments and municipalities with gender considerations conducted to develop sound management of plastic wastes complying with the regulation and enforcement requirement	Number of representatives of the national and local government, with equal participation among male and female, trained.	No training previously carried out on ESM of plastic waste potentially contaminated by POPs.	At least 40 representatives of the national government, and 60 representative of the local government, with equal participation of males (70%) and females (30%), will be trained on technical guidelines	Training reports and training materials. Participants list (female/male)	It is assumed that the staff from the central and local government will be interested in attending actively the training and in bringing their experience during training events. It is also assumed that the training will be designed and conducted with the support of outstanding international and national experts.
Output 3. 1.3 Training on reduce, reuse and recycle (3R) principles and good plastic waste separation practice for the general public held	Availability of training package specifically designed for the public. Number of micro-training events carried out countrywide	No previous training on 3R principles carried out in the country for the public at large	One Training package based on visual communication principles developed. At least 10 micro-training events involving group of families carried out nationwide to introduce 3R principles and waste separation practice	Training of training reports and material. Reports from training events and material, inclusive of participants list (female/male)	It is also assumed that the micro training will be tailored to the specific situation of the location were it will be carried out in term of development of the separate collection system.
Output 3. 1.4 Development of business models and selection of investors following the due diligence of the government concession policy	Availability of a market report on the plastic recycling in IC and of a business model report. # of companies adopting best technologies/new technologies	A number of potential investors in the sector of plastic recycling already exist, however they are not part of any ESM scheme of plastic waste.	A market report and the best business model for establishing a PPP with a plastic recycling company completed. A plastic waste recycling company selected.	Market report and business model report. Procurement reports for the selection of the plastic recycling partners.	It is assumed that firms in the plastic sector will be willing to apply under a PPP scheme to be involved in the ESM management of POPs contaminated plastic.

Hierarchy of Objectives	Indicators	Baseline	Target	Sources of Verification	Assumptions
Output 3. 1.5 Business operations established by private sectors working on sound management of plastic waste engaging public-private partnership modality if relevant	# of companies adopting best technologies/new technologies	Plastic recycler currently not equipped for managing plastic from ELV or WEEE.	The contracted company refurbished with equipment for the ESM management of plastic waste	Procurement reports for the equipment to be installed for the ESM management of BFR and non-BFR plastic.	ELV, WEEE recycler and plastic industry are assumed to identify a commercial modality which allow sharing the cost of disposal of BFR plastic and the benefit deriving from the recycling of non-BFR plastic, with the view that BFR plastic amount will progressively reduce.
Output 3. 1.6 Waste management practice improved to reduce PBDEs and uPOP emissions to the environment	# of male/female enrolled in new jobs.	Lack of formal job opportunities in the WEEE and ELV sectors	At least 25 jobs created (60% male, 40% female)	Offical records	ELV, WEEE recycler and plastic industry are assumed to identify job opportunities.
Output 3. 1.7 Final disposal of plastic materials possibly containing PBDE dismantled from 1,000 tons of PBDE containing waste.	Quantity of the following safe - guarded: POPs in consumer material, BFR, (tonnes)	No PBDE contaminated plastic disposed of until now	Plastic fromELV and WEEE screened for the BFR content, out of which the plastic with a BFR content exceeding 1000 ppm finally disposed of.	Certificate of final disposal of PBDE-containing plastics	It is assumed that no other options than destruction in HTI or cement kiln will be made commercially available during the project timeframe.
Output 3.1.8. Strengthening of women's entrepreneurship in the dismantling of WEEE and ELV	Number of training events Number of participants	Currently, no special support for women's entreprenourship is provided	At least two training training events At least 30 women attend trainings	Training reports and training materials. Participants list (female/male)	Willingness of the projects stakeholders to support these trainings

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

Comments	Response	Reference in documents

Comments from the GEF Council	

Germany's Comments: *Germany approves this project in the work program but asks that the following comments are taken into account:* <u>Suggestions for improvements to be made during the drafting of the final project proposal:</u> • Project component 1: Legal framework and institutional capacities, Project outcome 1: Legal and institutional framework revised - While not a prerequisite, Germany suggests to extent the focus of activities on import policies and include further components reviewing and advising on extended import restrictions and regulations regarding e-waste and end-of-life vehicles.	During PPG a gap assessment for the policy framework has been developed (see para 30 onwards and Annex H). Within the frame of gaps within the import policy, problems related with data on imported hazardous waste, including WEEE and ELV, no distinction between new and second-hand equipment (due to coding issues), lack of awareness of international conventions and lack of institutional capacity were highlighted. Expect for the policy, the problems will be addressed through output 1.2, 1.3 and 1.4.	See output 1.1. (Table B) See paragraph 105
• Project component 4: Monitoring and evaluation, Output 4.2. Project results evaluated - The unsustainable release of chemicals due to lack of proper management and disposal, e.g. of e-waste, is a serious and widespread problem in the region. The project has an ambitious design and offers good regional learning potential. As it currently lacks knowledge-sharing regional components, Germany supports the further inclusion of regional knowledge-sharing components. - With respect to existing experience in the region, Germany suggests that the project coordinators may exchange knowledge and experiences with an on-going BMZ-funded E-Waste programme in Ghana exploring the "Recycling and Disposal of Waste of electrical equipment in an environmentally sound way".	The review of import policies have been including in output 1.1. to ensure that POPs-containing products are not being restricted and regulated prior customs. During the PPG phase consultations with the GIZ project manager , based in Accra (Ghana), for the BMZ-funded E-waste programme "Recycling and Disposal of Waste of electrical equipment in an environmentally sound way" was contracted several times using Skype. Discussions were held about the scope, status and	See output 1.4., para 1

Comments from the GEF Secretariat at Work Plan Inclusion		
No remaining comments (after final approval)		
Comments from STAP		

1. This project aims to establish a system for effective management of polybrominated diphenyl ethers (PDBEs) and unintended Persistent Organic Pollutants (uPOPs) in Cote d'Ivoire, with a particular focus on e-wastes and end-of-life vehicles. 2. This issue of e-wastes and end-of-life vehicle is a challenge in many developing countries, which are the recipient of used electrical and electronic products, as well as second-hand vehicles from more advanced countries. The science of their negative environmental and public health impacts is well established in the literature (for example, Li et al., 2014: https://www.ncbi.nlm.nih.gov/pubmed/24090830; Labunska et al., 2014: https://www.ncbi.nlm.nih.gov/pubmed/24735010; Someya et al., 2016: http://www.sciencedirect.com/science/article/pii/S2405665015300093; Labunska et al., 2014: http://pubs.acs.org/doi/abs/10.1021/es500241m; Asante et al., 2011: http://www.sciencedirect.com/science/article/pii/S0160412011000626; Sindiku et al., 2012: https://www.researchgate.net/publication/251573431_Assessing_BFRs_and_POP-PBDEs_in_e-waste_polymers_in_Nigeria; Babayemi et al., 2016: https://www.ncbi.nlm.nih.gov/pubmed/27068907; Takahashi et al., 2016: https://link.springer.com/article/10.1007/s10163-016-0571-3; Hearn et al., 2012: http://www.sciencedirect.com/science/article/pii/S1309104215304323. Hence, this is a much-needed intervention especially in many African countries, where there is a significant lack of capacity and resources for overcoming the challenge. 3. NOTE: The title of the proposal was mistakenly stated as "Sound management of unintentional persistent organic pollutants (POPs) and [polychlorinated biphenyl ethers (PBDEs)] to reduce…." instead of "Sound management of unintentional persistent organic pollutants (POPs) and [POLYBROMINATED DIPHENYL ethers (PBDEs)] to reduce…. These are two different chemicals, so this should be corrected when developing the proposal further. It is also suggested to delete "possibly" from the project title as there is sufficient information in the baseline data, as well as in related science, which confirm the presence of POPs in the targeted waste types: the project will definitely reduce POPs. 4. According to the proposal, about one-third of the 10,000 to 25,000 tons of the electrical/electronic products imported into Cote d'Ivoire are second hand and are of variable quality, including some that are dysfunctional (e-waste). It is estimated that about 5000 end-of-life vehicles are received every month at the main e-waste and end-of-life recycling center. The amount of e-waste and end-of-life vehicles continues to grow. 5. The project seeks to manage the challenge through multiple interventions targeted at strengthening legal and institutional framework in the country, upgrading e-waste and end-of-life vehicle dismantling sector, and by establishing economic and investment opportunities in the sector. It is envisaged that these activities would lead to the disposal of 1000 tons of PDBEs containing waste and help avoid the emission of uPOPs. 6. However, the interventions are geared only towards downstream aspects of the problem; that is, solutions that address the management of already generated wastes (end-of-pipe solutions). However, for a sustainable solution, it is also important to target the upstream; that is, to address the issue of indiscriminate importation of dysfunctional electrical and electronic products, without which the problem will persist even if all existing waste today is successfully managed. It is therefore advised that activities that can help ensure that only usable products are imported into the country are included in the project. Example of such activities includes: introducing policies and legislation on the importation of used electrical/electronic products and second-hand vehicles, developing guidance on criteria and standards for accepting used electrical/electronic products and vehicles into the country, and the training of customs officers on effective monitoring of imported goods. 7. On page 12 of the proposal, under the subtitle "PBDEs in End of Life Vehicles," the lack of a data tracking system for end-of-life vehicle was noted but a solution to this was not included in the project activities. STAP advises that the creation of a data tracking system should be included in the capacity building and training aspects of the project if resource constraints allow. 8. Component 3 of the project aims to encourage plastic recycling to create pellets. While this is a good initiative and aligns with the concept of a circular economy, this need to be implemented using state-of-the-art knowledge and expertise, and with		Revised.

ANNEX C: STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES AND THE USE OF FUNDS.

A. Provide detailed funding amount of the PPG activities financing status in the table below:

PPG Grant Approved at PIF: **US$ 150,000**			
Project Preparation Activities Implemented	***GEF/LDCF/SCCF Amount ($)***		
	Budgeted Amount	***Amount Spent Todate***	***Amount Committed***
Sub-contract for National PPG activities	US$100,000	US$100,000	
International Consultants	US$ 50,000	US$ 38,464	US$ 11,536
Total	US$ 150,000	US$ 138,464	US$ 11,536

ANNEX D: CALENDAR OF EXPECTED REFLOWS (if non-grant instrument is used)

Provide a calendar of expected reflows to the GEF/LDCF/SCCF/CBIT Trust Funds or to your Agency (and/or revolving fund that will be set up)

not applicable

ANNEX E: GEF 7 Core Indicator Worksheet

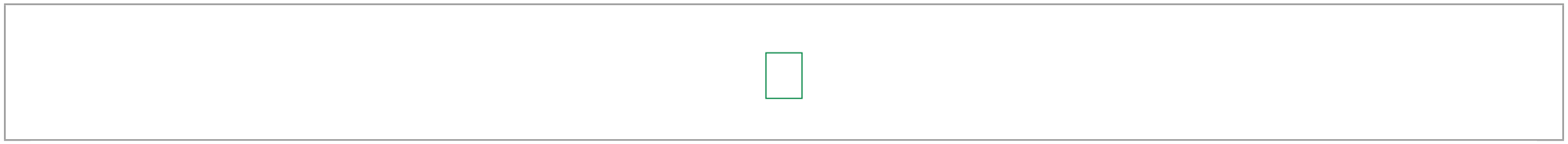
Use this Worksheet to compute those indicator values as required in Part I, Table G to the extent applicable to your proposed project. Progress in programming against these targets for the program will be aggregated and reported at any time during the replenishment period. There is no need to complete this table for climate adaptation projects financed solely through LDCF and SCCF.

see attached Annex E

ANNEX: Project Taxonomy Worksheet

Use this Worksheet to list down the taxonomic information required under Part1 by ticking the most relevant keywords/topics//themes that best describes the project

see attached Annex F



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