



GEF-6 PROJECT IDENTIFICATION FORM (PIF)

PROJECT TYPE: Full-sized Project

TYPE OF TRUST FUND: GEF Trust Fund

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PART I: PROJECT INFORMATION

Project Title:	Integrated Sustainable Urban Development (SUDP) and environmentally sound management of municipal solid waste project in Cameroon		
Country(ies):	Cameroon	GEF Project ID: ¹	
GEF Agency(ies):	AfDB (select) (select)	GEF Agency Project ID:	9234
Other Executing Partner(s):	Ministry of Environment, Protection of Nature and Sustainable Development (MINEPDED)	Submission Date:	30/07/2015
GEF Focal Area(s):	Multi-focal Areas	Project Duration (Months)	30
Integrated Approach Pilot	IAP-Cities <input type="checkbox"/> IAP-Commodities <input type="checkbox"/> IAP-Food Security <input type="checkbox"/>	Corporate Program: SGP <input type="checkbox"/>	
Name of parent program:	[if applicable]	Agency Fee (\$)	716,120

A. INDICATIVE FOCAL AREA STRATEGY FRAMEWORK AND OTHER PROGRAM STRATEGIES²

Objectives/Programs (Focal Areas, Integrated Approach Pilot, Corporate Programs)	Trust Fund	(in \$)	
		GEF Project Financing	Co-financing
(select) CCM-2 Program 3 (select)	GEFTF	1,734,862	84,420,000
(select) CW-2 Program 3 (select)	GEFTF	6,222,018	84,420,000
Total Project Cost		7,956,880	168,840,000

B. INDICATIVE PROJECT DESCRIPTION SUMMARY

Project Objective: To address root causes of environmental degradation in urban areas of Cameroon at the system level to decrease pollution and GHG emissions through the introduction of integrated and environmentally sound urban management practices.						
Project Components	Financing Type ³	Project Outcomes	Project Outputs	Trust Fund	(in \$)	
					GEF Project Financing	Co-financing
Component 1: Sustainable Urban Planning and Management and Integrated Transport Development	TA	1.1 Strengthened capacity of cities to plan and manage urban resources 1.2 Policy, planning and regulatory frameworks foster accelerated low GHG development and emissions mitigation 1.3 Accelerated adoption of innovative technologies and management practices for GHG emission reduction	1.1 Institutional and technical support to the ministries in charge of urban planning and decentralization, local/national coordination mechanism established 1.2 Creation of sustainability entities in newly created urban planning authorities of Yaoundé and Douala 1.3 Capacity building	GEFTF	1,734,862	78,200,000

¹ Project ID number will be assigned by GEFSEC and to be entered by Agency in subsequent document submissions.

² When completing Table A, refer to the excerpts on [GEF 6 Results Frameworks for GETF, LDCF and SCCF](#).

³ Financing type can be either investment or technical assistance.

			<p>for more sustainable land use planning practices for sustainable waste management.</p> <p>1.4 Design and implementation of sustainable urban policies focusing on the identification of potential waste to energy strategies for implementation in Cameroonian cities.</p> <p>1.5 Trainings and workshops conducted to increase awareness of the environmental and social benefits of integrated infrastructure development with land use planning.</p> <p>1.6 Strategies for long-term low-carbon city development planning identified for Douala and Yaounde, for eventual replication in four other cities.</p>			
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Component 2 Establishment of controlled landfills with sound municipal and hazardous waste management practices	Inv	<p>2.1 Pilot demonstration activities to reduce dioxin and furan emissions at selected dump sites as well as hazardous waste process</p> <p>2.2 Mitigation of socio-economic impacts of the project's intervention on the existing and informal business activities</p> <p>2.3 Quantifiable and verifiable tons of POPs eliminated or reduced</p> <p>2.4 Reduction/elimination of POPS-PBDEs releases from E-waste</p> <p>2.5 Awareness raised on sustainable and effective E-waste management by relevant stakeholders</p>	<p>2.1.1 Demonstrating BAT/BEP for municipal and hazardous wastes management through establishing controlled dumpsites/landfills and promoting recycling in the selected municipalities.</p> <p>2.1.2 National information on current locations of open burning, healthcare waste practices and e-waste hotspots validated</p> <p>2.1.3 National comprehensive inventories of uPOPs emissions from open burning, healthcare waste practices and PBDEs releases from e-waste hostsops reviewed and updated</p> <p>2.1.4 Waste (including healthcare and e-waste) management best practices carried out in selected municipalities.</p> <p>2.1.5 Specific e-waste products and plastics containing PBDEs are targeted.</p> <p>2.1.6 BAT/BEP plans developed and implemented in some selected major dumpsites/landfills, and e-waste hotspots in the participating cities using PPP models in cooperation with Original Equipment Manufacturers (OEMs)</p> <p>2.1.7 Cleaner biomass waste recycling and disposal options promoted in some areas through alternative waste management plans for high-value activities</p>	GEFTF	2,500,000	42,210,000
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Component 3: Establishment of policy and legal framework to encourage sustainable chemical and waste management	TA	<p>3.1 Establishment of legal framework</p> <p>3.2 Awareness of chemical and waste safety raised</p> <p>3.2 Develop and demonstrate new tools and regulatory along with economic approaches for managing harmful chemicals and waste in a sound manner</p> <p>3.3 Strengthened capacity for more sustainable urban waste management in Douala and Yaounde</p>	<p>3.1 Legal framework gap analysis produced</p> <p>3.2 Legislations needed to address sound management of municipal and hazardous waste including those to better control unintentional POPs emission drafted and enacted</p> <p>3.3 Chemical safety awareness raising on adverse effects of toxics to which the formal and business sector workers could be exposed</p> <p>3.4 Capacity building program to enhance local knowledge and capacity to manage waste effectively.</p> <p>3.5 Support provided to diversified revenue sources for solid waste management</p> <p>3.6 Support provided for development of clear structure for private sector involvement</p> <p>3.7 Regulatory measures formulated for discouraging open burning practices (including biomass residues), unsustainable healthcare waste and e-waste management</p> <p>3.8 Action plans for phasing out of waste (including biomass residue) open burning, healthcare waste and e-waste unsustainable management practices reviewed and strengthened.</p>	GEFTF	2,722,018	42,210,000
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Component 4: Knowledge Management and Dissemination	TA	3.1 Project results documented and disseminated to increase national knowledge of integrated sustainable urban development projects 3.2 Increased awareness of sustainable urban development projects in Cameroon among stakeholders	4.1 Proper M&E mechanism and methodology established. 4.2 Project experiences documented and presented in periodic M&E reports. 4.3 Creation of Traditional Knowledge TK sharing program to valorize and share knowledge on high value biodiversity in the regions. 4.4 Knowledge platforms and products created and shared on formal Web site with a strategy for KM. 4.5 Relevant stakeholders engaged in knowledge sharing platform.	GEFTF	700,000	4,420,000
	(select)			(select)		
Subtotal					7,656,880	167,040,000
Project Management Cost (PMC) ⁴				(select)	300,000	1,800,000
Total Project Cost					7,956,880	168,840,000

For multi-trust fund projects, provide the total amount of PMC in Table B, and indicate the split of PMC among the different trust funds here: ()

C. INDICATIVE SOURCES OF CO-FINANCING FOR THE PROJECT BY NAME AND BY TYPE, IF AVAILABLE

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Amount (\$)
GEF Agency	African Development Bank	Loans	168,840,000
Recipient Government	Government of Cameroon	In-kind	
Private Sector	CDC - Cameroon Development Corporation	Unknown	
Total Co-financing			168,840,000

D. INDICATIVE TRUST FUND RESOURCES REQUESTED BY AGENCY(IES), COUNTRY(IES) AND THE PROGRAMMING OF FUNDS ^{a)}

GEF	Trust	Country/	Focal Area	Programming	(in \$)
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⁴ For GEF Project Financing up to \$2 million, PMC could be up to 10% of the subtotal; above \$2 million, PMC could be up to 5% of the subtotal. PMC should be charged proportionately to focal areas based on focal area project financing amount in Table D below.

Agency	Fund	Regional/ Global		of Funds	GEF Project Financing (a)	Agency Fee (b) ^{b)}	Total (c)=a+b
AfDB	GEFTF	Cameroon	Chemicals and Wastes	POPS	6,222,018	559,982	6,782,000
AfDB	GEFTF	Cameroon	Climate Change	(select as applicable)	798,165	71,835	870,000
AfDB	GEFTF	Cameroon	Biodiversity	(select as applicable)	936,697	84,303	1,021,000
Total GEF Resources					7,956,880	716,120	8,673,000

a) Refer to the [Fee Policy for GEF Partner Agencies](#).

E. PROJECT PREPARATION GRANT (PPG)⁵

Is Project Preparation Grant requested? Yes ☐ No ☐ If no, skip item E.

PPG AMOUNT REQUESTED BY AGENCY(IES), TRUST FUND, COUNTRY(IES) AND THE PROGRAMMING OF FUNDS

Project Preparation Grant amount requested: \$300,000					PPG Agency Fee: 27,000		
GEF Agency	Trust Fund	Country/ Regional/Global	Focal Area	Programming of Funds	(in \$)		
					PPG (a)	Agency Fee ⁶ (b)	Total c = a + b
AfDB	GEF TF	Cameroon	Multi-focal Areas	POPS	200,000	18,000	218,000
AfDB	(select)	Cameroon	Biodiversity	(select as applicable)	100,000	9,000	109,000
Total PPG Amount					300,000	27,000	327,000

⁵ PPG requested amount is determined by the size of the GEF Project Financing (PF) as follows: Up to \$50k for PF up to \$2m (for MSP); up to \$100k for PF up to \$3m; \$150k for PF up to \$6m; \$200k for PF up to \$10m; and \$300k for PF above \$10m. On an exceptional basis, PPG amount may differ upon detailed discussion and justification with the GEFSEC.

⁶ PPG fee percentage follows the percentage of the Agency fee over the GEF Project Financing amount requested.

F. PROJECT'S TARGET CONTRIBUTIONS TO GLOBAL ENVIRONMENTAL BENEFITS⁷

Provide the expected project targets as appropriate.

Corporate Results	Replenishment Targets	Project Targets
1. Maintain globally significant biodiversity and the ecosystem goods and services that it provides to society	Improved management of landscapes and seascapes covering 300 million hectares	<i>Hectares</i>
2. Sustainable land management in production systems (agriculture, rangelands, and forest landscapes)	120 million hectares under sustainable land management	<i>Hectares</i>
3. Promotion of collective management of transboundary water systems and implementation of the full range of policy, legal, and institutional reforms and investments contributing to sustainable use and maintenance of ecosystem services	Water-food-ecosystems security and conjunctive management of surface and groundwater in at least 10 freshwater basins;	<i>Number of freshwater basins</i>
	20% of globally over-exploited fisheries (by volume) moved to more sustainable levels	<i>Percent of fisheries, by volume</i>
4. Support to transformational shifts towards a low-emission and resilient development path	750 million tons of CO _{2e} mitigated (include both direct and indirect)	<i>2.5million metric tons</i>
5. Increase in phase-out, disposal and reduction of releases of POPs, ODS, mercury and other chemicals of global concern	Disposal of 80,000 tons of POPs (PCB, obsolete pesticides)	<i>20 g-TEQ/year reduction in releases of dioxins and furans metric tons</i>
	Reduction of 1000 tons of Mercury	<i>2.5 metric tons</i>
	Phase-out of 303.44 tons of ODP (HCFC)	<i>ODP tons</i>
6. Enhance capacity of countries to implement MEAs (multilateral environmental agreements) and mainstream into national and sub-national policy, planning financial and legal frameworks	Development and sectoral planning frameworks integrate measurable targets drawn from the MEAs in at least 10 countries	<i>Number of Countries:</i>
	Functional environmental information systems are established to support decision-making in at least 10 countries	<i>Number of Countries:</i>

PART II: PROJECT JUSTIFICATION

1. *Project Description.* Briefly describe: 1) the global environmental and/or adaptation problems, root causes and barriers that need to be addressed; 2) the baseline scenario or any associated baseline projects, 3) the proposed alternative scenario, GEF focal area⁸ strategies, with a brief description of expected outcomes and components of the project, 4) [incremental/additional cost reasoning](#) and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and [co-financing](#); 5) [global environmental benefits](#) (GEFTF) and/or [adaptation benefits](#) (LDCF/SCCF); and 6) innovation, sustainability and potential for scaling up.

Cameroon has experienced strong and rapid urban growth since gaining independence in 1960. The United Nations Statistics Division indicates that Cameroon's urban population accounted for 52% of the total national population, and there was an estimated average urban growth rate of 3.2% between 2010 and 2015. From 1998 to 2010, the country's population nearly doubled, resulting in increasing anthropogenic GHG emissions, waste management and pollution issues, ecosystem degradation, habitat destruction, and species threat. Rapid uncontrolled and mismanaged urban growth puts increasing pressure on already strained urban infrastructure and resources and is inevitably accompanied by geographical and social segregation and fragmentation of urban space, resulting in urban development patterns which are highly detrimental to the preservation of the environment and fragile ecosystems, a

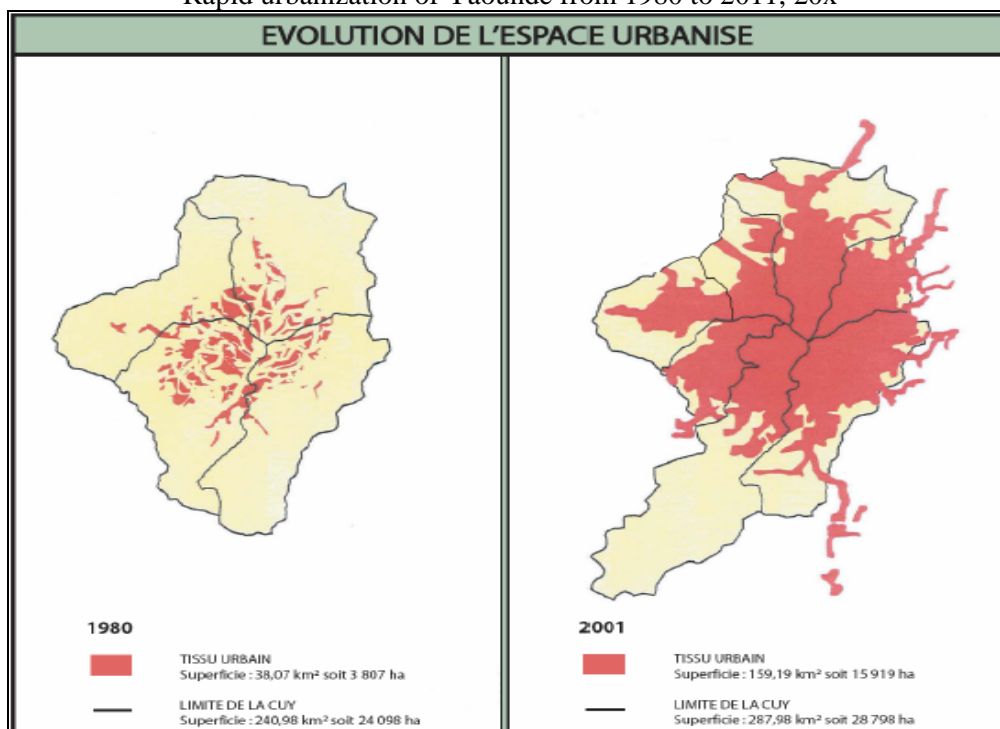
⁷ Provide those indicator values in this table to the extent applicable to your proposed project. Progress in programming against these targets for the projects per the *Corporate Results Framework* in the [GEF-6 Programming Directions](#), will be aggregated and reported during mid-term and at the conclusion of the replenishment period. There is no need to complete this table for climate adaptation projects financed solely through LDCF and/or SCCF.

⁸ For biodiversity projects, in addition to explaining the project's consistency with the biodiversity focal area strategy, objectives and programs, please also describe which [Aichi Target\(s\)](#) the project will directly contribute to achieving.

corresponding loss of various forms of biodiversity, and exposes urban communities to precarious conditions, which are exacerbated by a changing climate, particularly in the two main cities of Douala and Yaoundé. In these two cities, the main infrastructure elements which need to be urgently addressed include waste management and urban transportation, both of which contribute greatly to increased and hazardous air, water, and soil pollution; flood hazards, including the proliferation of water-borne disease; accessibility to economic opportunities and services; and overall quality of life.

Yaounde is the capital city, an agglomeration of 304 square kilometers with roughly 1.5 million inhabitants and an average population growth of 6.8% annually. The population of Yaounde has increased by more than 6% annually since the early 1990s, with population growth driven by rural migration and high birth rates. Douala is the largest city in Cameroon, home to more than 2 million residents, which is nearly 20% of the total population, and serves as the country's economic hub, with one of the largest ports on the Atlantic coast of Africa. Rapid and badly planned urbanization, coupled with poverty, unemployment, crime, and a lack of basic infrastructure and services has resulted in staggering inequality and the proliferation of informal settlements and slums, which are cut off from transportation links and other urban services, and often in areas highly vulnerable to flooding and water and other contamination by hazardous waste.

Rapid urbanization of Yaounde from 1980 to 2011, 20x



Waste Management Issues

The largest cities in Cameroon produce an average of 4,200 tons of waste per day, in addition to 500 tons of industrial waste. Annual production for Cameroon is around 483,902 tons/year, with Douala and Yaoundé producing almost 60% of that. Only these two cities have services for household and industrial waste collection and treatment. On average, almost 70% of household waste is composed by easily biodegradable materials.

Rapid urbanization in Cameroon has exacerbated existing waste management issues. Cities are traditionally engines of social modernization and economic growth and at the same time is where globalization is most evident. For Cameroon this has led to exacerbate existing urban problems and challenges, in particular municipal solid waste management. The constant increase in flows of goods and services, and the change in life style and ways of consumption, have affected the waste sector directly or indirectly. Municipal solid waste management constitutes one of the most crucial health and environmental health problems. Even though these cities are using 30 percent of their

budget for solid waste management, only 20-50 percent of the waste is been collected. Illegal dumping still contributes to 50 percent of health and environmental degradation.

In Cameroon, like in other parts of the African region, the implementation of integrated waste management practices, including the management of healthcare waste and waste electrical and electronic equipment (E-waste), is generally still new. Indeed, high-tech waste treatment facilities (such as properly managed incinerators, industrial waste recycling facilities or sanitary landfills) are very few, as well as sound reuse/recycling practices. Therefore, municipal wastes and other types of wastes are usually dumped in open dumpsites and eliminated by highly polluting open burning practices. Even E-waste are often subjected to crude recycling methods involving open burning and irrational dumping that, in addition, result in poor recovery of valuable fractions. In urban areas, it can be expected that municipal waste is mainly composed of food residues, packaging of goods and some hazardous wastes (such as healthcare waste, batteries including used acid lead batteries (ULABs), and waste electrical and electronic equipment: WEEE), whereas in sub-urban or rural zones, these shares decrease in favour of country specific agricultural wastes. The hazardousness of wastes is generally ignored by a large part of the population as well as their potential economic and industrial value while considered not as useless waste to get rid of, but rather as valuable secondary raw material that can be processed using environment friendly techniques in the spirit of the Ecological Industry. Non-skilled, ignorant and poorly equipped people under socio-economic stress including women, unemployed young people and children use daily handle different kind of waste in various irrational manners that expose themselves and the environment to the adverse effects of hazardous chemicals, including unintentionally produced POPs (uPOPs), newly listed industrial POPs like polybrominated diphenyl ethers (PBDEs), heavy metals including mercury and various other toxic persistent substances.

The Government of Cameroon signed in 2012, a decree to regulate the management, transportation, sorting, recycling and final disposal of wastes. This decree was followed by orders which specify among other things:

- The management, treatment and final disposal of dangerous and/or toxic industrial wastes;
- The management of medical and pharmaceutical wastes;
- The use of non-biodegradable packaging, of which light plastic which has been banned.

The enforcement of these new legislations will enable in future the reduction of unintended emissions of dioxins and furans résultaient from the burning of medical, municipal and household wastes. Cameroon elaborated his National Implementation Plan (NIP) of Stockholm Convention in 2012 and developed four action plans which one iOS to reduce dioxins and furans in the country. Four specific activities are proposed:

- Reduce emissions of dioxins and furans related to burning of agricultural residues;
- Reduce emissions of dioxins and furans related to landfill fires and uncontrolled burning of domestic waste;
- Reduce emissions of dioxins and furans due to forest and savannah fires;
- Reduce emissions of dioxins and furans related to poor management of medical wastes.

Dioxins and Furans are unintentionally produced in Cameroon through various human activities and industrial processes. The results of the dioxins and furans inventory in Cameroon for the baseline year 2009 carried out within the framework of the elaboration of the Stockholm Convention on POPs, reveals the presence of nine sources of emissions of dioxins/furans in Cameroon which contribute towards a total discharge of 596 g TEQ/a. Out of these nine sources, six are more preoccupying and urgent actions needs to be taken on the short, medium and long term. These sources include, in order of decreasing importance, savannah and forest fires (54% of emissions), medical waste incineration (18.3% of emissions), burning of municipal waste (15.2% of emissions) and the uncontrolled burning of household waste, agricultural residues (11% of emissions).

Healthcare waste : Healthcare waste collection and management in large medical facilities is usually carried out eventhough there is still much to do for the existing management schemes to reach envrionemnationally acceptable standards. Conversely, in many small medical facilities and especially in remote countryside and private clinics, it is common that waste is not properly collected for special treatment rather ends in the uncontrolled disposal and could result in breakage of mercury-containing devices (such as thermometers and blood pressure meters) and in the

consequent release of this global contaminant in the environment. Moreover, it is recognized that poorly mixed materials and the presence of chlorinated or brominated precursors and catalytic metals (copper, iron) from electrical and electronic devices and from medical devices are the main factors for the formation and releases of uPOPs (chlorinated or brominated) in open burning processes as well as other environmental pollutant releases.

E-waste: The presence of hazardous substances in E-waste makes it imperative to effectively manage them, as well as, to strictly implement regulations concerning their proper disposal. E-waste has components that are covered under the amended Stockholm Convention (2009) on POPs. These include certain brominated flame retardants (BFRs) that are listed in Annex A of the Convention. These are: (a) hexabromobiphenyl (HBB) and (b) polybrominated diphenyl ethers (PBDEs) - commercial-OctaBDEs and commercial pentaBDEs. There is no specific exemption for the production or uses of HBB, while production and use of POP-PBDEs have to be eliminated by Parties subject to the exemptions allowed by the Convention. PBDEs production data for 1970-2005 ranged between 1.3 million to 1.5 million tonnes as estimated by the POPs Reviewing Committee (POPRC) of the SC (UNEP, 2010). During this period, global usage for c-PentaBDE and c-OctaBDE was estimated at around 100,000 tonnes each. Production of c-PentaBDE and c-OctaBDE ended in 2004, while c-DecaBDE production continues. Commercial-DecaBDE production until 2005 was estimated to be at least 1.1 million tonnes. Although not listed at present, higher brominated PBDEs can be debrominated during its lifetime and thus could potentially be precursors of lower PBDEs, such as the POPs-PBDEs. It is also worth noting that, although the other PBDE homologues are no longer produced, recycling of plastic casings in computers and other WEEE products that contain PBDE into new plastic products give rise to secondary contamination and its associated health risks. Hence, the use of recycled plastics can be potentially more hazardous than its original intended use.

There are a number of barriers to proper and sustainable waste management, including policy barriers, in Cameroon. Currently, there is no legislation regarding environmental standards and/or sustainable approaches in the waste management sector, but the Ministry of Environment and Sustainable Development has incorporated the concept of sustainable development in its waste management strategy document. Financing is also an issue, as Cameroonian waste management remuneration levels are at less than 6 euros per ton, compared to between 40-120 euros per ton in Europe. At these levels, it is difficult to comply with local environmental standards and even more so international standards, such as the International Finance Corporation's (IFC) environmental and social performance standards. Taxation related to municipal solid waste management in Cameroon is based on a system of direct local taxes dedicated to financing local services. The fundamental issue is that the base from which it is drawn is too narrow, limited to formal and public sectors which represent less than 10% of the population. In Douala and Yaounde, this tax finances less than 1/10 of the waste collection and processing activities – the remainder is covered by central state subsidies.

The main barriers that need to be addressed are both on the side of lacking knowledge and capacity for the proper management of waste at or before their origin, and on the side of the financial resources and market-based mechanisms. The proper segregation of waste can even generate income for the people, at least partially relieving poverty issues.

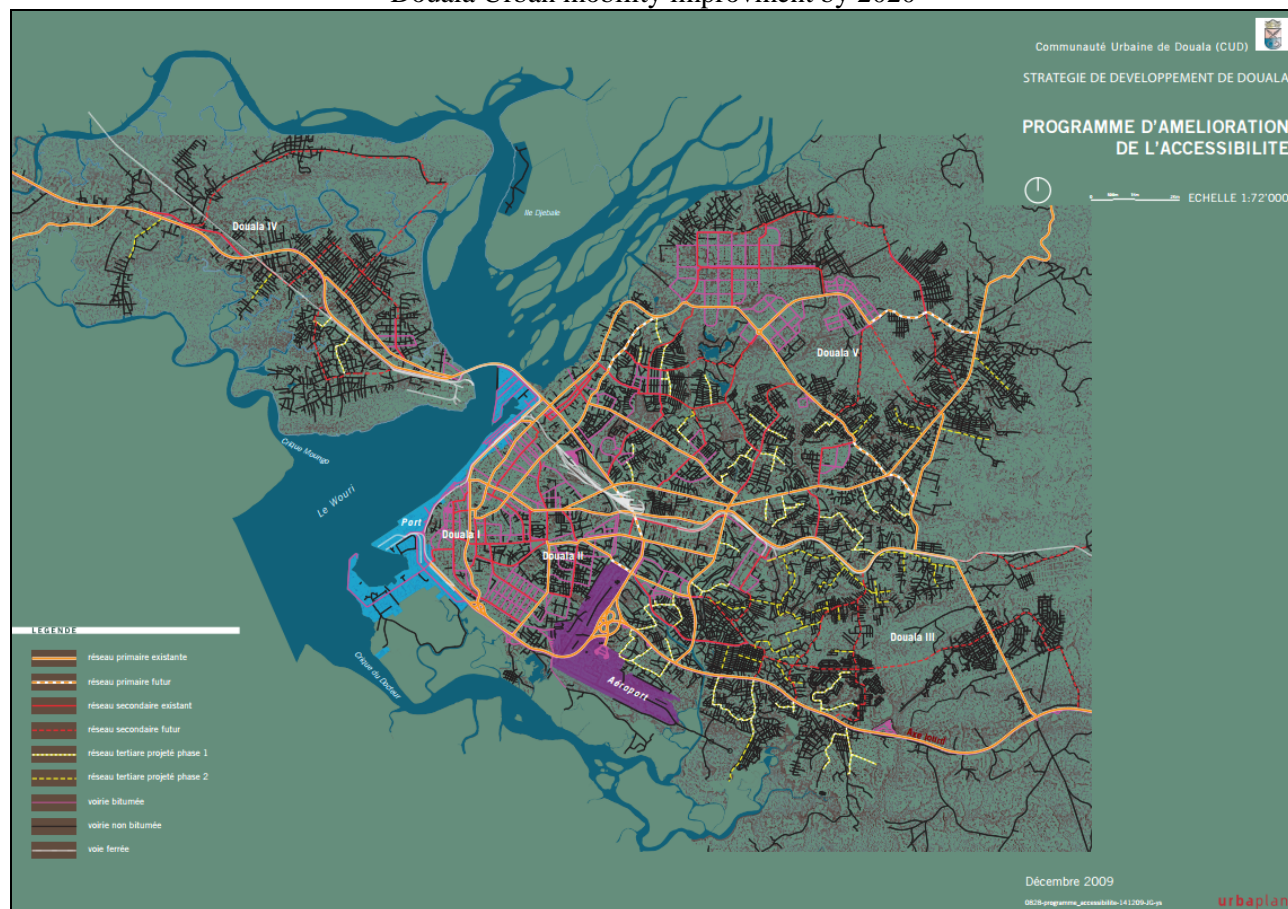
Climate Change

In June 2014, Douala was hit by massive flooding, attributed to climate change and unregulated housing development, which resulted in widespread and unprecedented devastation that forced more than 80,000 from their homes (Reuters). While this is not an adaptation project, this project will address urban sustainability in a holistic way, aiming to address urban emissions from the systems level, targeting mobility as a key strategy so as to address one of the highest contributors to national GHG emissions.

Urban areas always present some risk of flooding when rainfall occurs, and this risk is exacerbated by a changing climate. In poorly governed cities it is common for buildings or infrastructure to be constructed that actually obstruct natural drainage channels, exacerbating increased flood risk caused by climate change. Hundreds of millions of urban dwellers in African cities are at risk from the direct and indirect impacts of climate change -- Cameroonian cities are no exception. Without effective and locally driven integrated sustainable urban planning, there will be very serious consequences for cities and for national economies. Informal settlements have driven urban expansion in

Cameroonian cities, resulting in the worst type of urban sprawl. Human settlements have expanded up hill-slopes and onto wetlands, due to the availability of cheaper land, - resulting in millions of inhabitants of squatter settlements, vulnerable to increased flooding. Inhabitants and entire communities within these sprawling informal settlements are cut off from formal transportation links, forcing people to find other ways to gain access to critical goods and services. It is for this reason that the unregulated informal transport sector has proliferated and flourished in Cameroonian cities, driven by transportation demand in dislocated and disconnected informal settlements, creating an unorganized urban services system which is ill fitted to serve urban populations in a sustainable way.

Douala Urban mobility improvment by 2020



Serious deficiencies in the institutional capacities for effective and sustainable long term urban planning in Cameroon is a major barrier, as is reliable data on motorization, GHG Baseline data and GHG emissions factors, and technical know how on international best practice for approaching urban planning and management in an integrated way taking into consideration environmental considerations while also tackling challenges of spatial development, infrastructure investment, and social development. Other barriers include unclear and overlapping responsibilities; Planning authorities are constrained in their implementation authority; inefficiencies in the transport system are considered normal; policy inertia and lack of political will to face up to the challenges of change; and a lack of appropriate regional examples of best practice. Urban planners and local institutions in Africa are frequently constrained in their capacity to design and implement effective and integrated sustainable transportation planning and policy and are further limited by sparse financial resources inadequate institutional framework, a lack of coordination in policy development, and inadequate learning and scaling up from existing projects.

1.2 The Baseline Scenario

Waste Management Issues

In Cameroon, the biggest cities produce an average of 4,200 tons of municipal waste per day and an additional 500

tons of industrial waste. Douala and Yaoundé together produce almost 60% of that. For this reason, only these two cities have a service for household and industrial waste collection and treatment. On average, almost 70% of household waste is composed by easily biodegradable materials, but due to lack of resources, poor coordination, and low technical capacity an opportunity to deploy environmentally sustainable waste management practices has not yet been fully explored. Currently all municipal solid waste collected in Cameroon is sent to landfills and the only existing recycling industry relates to products such as iron and bottles, which are recovered by waste pickers prior to waste collection. Also, most often the waste are incinerated in dumpsides and landfills leading to release of unwanted pollutants and contaminants. A holistic approach based on the reduction of the amount of waste generated, proper segregation of waste, reuse and recycle whenever possible and adoption of proper technologies is required. Establishing widespread recycling processes is problematic due to the composition of waste, which has a low recyclable component, except for biodegradable material (60% of total volume), which can be used to produce compost. The market is dominated by competition from chemical fertilizers. The main items that are recycled include soft and hard plastics, glass, steel, paper, cardboard, aluminum and alloys etc. Cameroon is facing legal, financial and social problems in terms of solid waste management. Municipalities and the government of Cameroon face difficulties in extending and formulating environmental legislation. Public awareness and public participation are major needs in the effective implementation of a solid waste management system. Therefore, co-operation from citizens is a vital aspect in managing the solid wastes of a city. Habits and attitudes of inhabitants of a city largely affect waste management systems. Hence, the social aspect cannot be separated from the overall waste management system. Therefore, environmental education in schools and other learning avenues to develop awareness in the general public becomes critical.

Current disposal of Waste in Douala



Photo 1 : Quartier de Bependa, Douala, octobre 2014



Photo 2 : Décharge sauvage, Limbe, novembre 2014

Waste Management and Climate Change

GHG emissions have increased by 50.50% during the period 1995-2008 in Cameroon.

The Baseline Project

The African Development Bank is financing a project with an loan of \$168 million, with the aim of improving urban infrastructure and services in Cameroon to support strong and continued economic growth in the country. The project is an infrastructure investment with supporting economic and social development as its main objective, which it has articulated as: “To contribute to the economic growth in Cameroon by strengthening urban infrastructure and improving urban governance through the provision of basic urban services. The specific sector objective of the program is to make towns and cities in Cameroon: (i) a healthy and productive space for work and play; (ii) a competitive and bankable environment with a real potential for development, (iii) urban entities which are well managed and under strong administrative control. The project also aims to strengthen institutional and technical

capacities of relevant ministries involved in local/urban planning and development to support improved strategic management of more sustainable urban development in the future.

Co-financing by the government will mainly fund the gap analysis of the legal framework needed to support the administrative and regulation aspects of the project intervention to improve the sound management of municipal and hazardous waste as well as mitigate socio-economic impacts of the project activities on waste pickers and informal recycling sectors. Co-financing will also support awareness raising and education for those working at the dump site to improve recycling knowledge and activities.

Project Description

Component A: National urban development program targeting 6 cities including Yaounde, Douala, Limbe and others (TBC)

Under this component, the main output is the formulation of a national urban development program. This will include the identification of policy gaps and measures and plans, feasibility studies, and the institutional and financial arrangements of the following activities:

- Providing national level institutional and technical support to the central administration - mainly MINHDU (ministry in charge of urban planning and housing) and MINDAT (ministry in charge of decentralization), consisting mainly of: Institutional and organizational audit, evaluation framework legislative and regulatory urban development and decentralization (policy statement, policies, strategies, action plans, projects, results, perspectives), building institutional and technical capacities;
- Supporting the development of local institutions of Yaoundé and Douala: Institutional and organizational audit, assessment of urban planning document throughout the metropolitan (city development strategy, SDAU, PDU, etc.), development of a priority investment program in the short term on the implementation of urban infrastructure (roads, sanitation, water, energy), improving urban governance (offices, equipment, financial management, mobilization of own resources), the delivery and management of urban services (transport and mobility, energy, ICT, waste), improving informal housing settlements, promotion of the urban economy and exploring development opportunities for public-private partnerships.
- Supporting urban development in 4 medium cities: Institutional and organizational audit, assessment of urban planning document (city development strategy, SDAU, PDU, etc.), development of a program on short term priority urban infrastructure investments (roads, sanitation, water, energy), improving institutional governance for urban development, improving cross sectoral management of urban services, improving informal housing conditions, promoting urban economies and exploring opportunities for public-private partnerships.

Component B: Establishment of urban planning and management tools in project cities

Under this component, road work will be undertaken as part of a larger program of the Ministry of Housing and Urban Development (MINHDU) in urban planning and land use planning to reflect priority needs in Batchenga, Ntui, Yoko and Tibati and include the following activities:

- Development and/or updating of urban planning documents, including land use plans in accordance with national regulations. These documents will be accompanied by technical operational tools required for a successful municipal management, in this case the Priority Investment Plan (PIP) and priority maintenance plan (PEP).
- Formulation of studies on: urban diagnosis, sustainable development strategy, details of urban planning for the modernization of central areas and planning of short- and medium-term extension areas, multiannual investment program (5 years), implementation mechanism and monitoring and evaluation, and the establishment of a technical management unit.

1.3 The Proposed Alternative Scenario

While the AfDB investment will cover the cost of the provision of basic urban infrastructure and services, the GEF

financing will cover the cost of ensuring that the requisite policy and regulatory framework is put in place so as to ensure the most sustainable usage of these infrastructure and services, and creating the requisite enabling environment to support cohesive, integrated long-term urban planning. The project will focus on decoupling environmental degradation from urban development through the identification and implementation of appropriate sustainable urban development practices which will lead to more sustainable practices across multiple urban sectors particularly integrated land use, urban planning and management, and municipal waste management.

In the spirit of GEF-6's movement toward more integrated approaches to addressing environmental problems at the systemic level, in addition to waste management activities, the project will also attempt to promote comprehensive sustainable urban development integrating urban design, planning, and implementation. As such, the first component aims to achieve a more people-centered development model which would also foster the development of the local economy in a way which can more sustainably promote the development of urban services, including those which are related to waste. Through the implementation of more sustainable practices, the project will address urban development problems with a two-pronged approach integrating the protection of environmental assets with the aim of ameliorating the two main problems plaguing Cameroonian cities as the basis of a truly integrated SUDP. The project will execute activities separated into dedicated components resulting in the direct and indirect mitigation of GHG emissions and the reduction and/or elimination of hazardous chemicals and waste reduction of unintentionally produced persistent organic pollutants (uPOPs). The first tranche of the project will focus on increasing urban mobility while simultaneously mitigating GHG emissions through a host of sustainable integrated land use and urban planning measures and the identification and introduction of mitigation measures in the waste management sector. In order to address growing waste management issues in Cameroon, project activities under the second and third components will target the eradication of open burning practices while demonstrating BAT/BEP, while promote recycling and the mainstreaming of environmentally sustainable waste management practices to ensure that as Cameroonian cities continue to develop, growing waste issues are addressed within a cohesive regulatory framework with economic and financial instruments and mainstreaming ESM of waste into the development agenda to ensure sustainable ESM of wastes.

The GEF financed activities will be structured around three broad components:

Component 1: Sustainable Urban Planning and Management and Integrated Transport Development

Under this component, technical assistance will be provided on sustainable urban planning methods and practices. A first step towards a well-organized and operated urban system is to create the right framework to promote more sustainable urban development patterns in Cameroonian cities. The focus within this urban planning and management program will be to identify the most appropriate and feasible entry points to create good urban planning policies which are applicable at the national level as part of a larger sustainable development program, but be specified at the local level, focusing on sustainable integrated land use and urban planning as a key pillar around which broader urban planning activities will be centered. The aim of this project is to create the requisite foundation to facilitate the transfer of more sustainable integrated urban management practices which will decrease or eliminate hazardous waste and chemicals, and decrease GHG emissions. To address climate change, this project's entry point is urban planning, and will extend to land use planning for waste management. Under this component, appropriate policy and planning measures will be identified with the aim of mitigating GHG emissions directly, while also creating the policy framework which will indirectly mitigate the emissions of carbon dioxide within the urban context through the implementation of more sustainable waste management practices. Developing countries have the opportunity to develop sustainable infrastructure in growing cities, and at the same time "leapfrog" to environmentally-friendly technologies.

Additionally, as part of the work undertaken in this component, a formal coordination mechanism between local governments, particularly the Urban Councils of respective participating cities will be established to ensure that there is strong coordination between national planning and local action. A thorough stakeholder analysis will be undertaken in the PPG phase to identify all stakeholders at the local level and create a comprehensive engagement plan that extends across different levels of government. Because urban development issues are fragmented and characterized by multiple stakeholders, overlapping responsibilities and jurisdictions make coordinating joint action difficult, particularly because there are disconnects between national and local priorities and policies. This

coordinating facility will ensure that there is strong coordination between local and national policymaking in the urban development sphere.

Targeted outputs include:

- Establishment of GIS based transportation data inventory following open data practices and principles to be identify high priority waste hotspots and guide future planning for waste management.
- Trainings and workshops conducted to increase awareness of the environmental and social benefits of integrated infrastructure development with land use planning as well as specific methods and practices.
- Stakeholder engagement plan formulated and formal coordination mechanism established, focusing on coordinating amongst local/national policymakers.
- Comprehensive strategies for long-term low-carbon city development planning strategies introduced for Douala and Yaounde, for eventual replication in the four other chosen cities, integrating numerous sustainable city strategies including identification of suitable entry points for high impact technology interventions in the waste management sector tailored to each city.
- Supportive sustainable urban waste management policies identified for each city to inform the formulation of a long-term national urban development planning strategy, guidelines, and/or priorities focusing on strengthened urban planning institutions, and promoting the widespread use low carbon waste management strategies.
- Creation of Sustainable Development Plans for pilot cities focusing on strategies to optimize existing urban services
- Identification and development of formalized programs for waste reduction in households.
- Formulation of waste reduction plans.

Component 2 Establishment of controlled landfills with sound municipal and hazardous waste management practices

Under this component, controlled dumpsites and landfills will be established with sound municipal and hazardous waste management practices and uPOPs baseline information will be established on: open burning, healthcare waste and e-waste management practices inventory of major dumpsites/landfills, and e-waste hotspots. Most of the GEF resources will be devoted to promoting Best Available Techniques (BAT) and Best Environmental Practice (BEP) for sound management of municipal and hazardous waste to establish controlled landfills. This project will focus on select dump sites in Yaounde and Douala. The sites will be selected during the PPG phase considering the co-financing contribution commitment and other factors. This GEF project could contribute to, in part, the implementation of the master plan. The sustainability of the approach proposed by this project will be ensured by BAT and BEP to anchor a permanent change in the local business practice. Municipalities of the selected sites and the local partners will be involved to receive political support and ensure the replicability of the project's results in other regions in Cameroon.

Establishing widespread recycling processes is problematic due to the composition of waste, which has a low recyclability component, except for biodegradable material (60% of total volume), which can be used to produce compost. The market is dominated by competition from chemical fertilizers. This reality could be addressed with taxation and limits on the usage of pesticides combined with awareness raising on the damaging effects on soil and a growth in the compost sector. (We need to promote the use of no chemical fertilizers to protect the environment and human health).

Activities and outputs:

- Initial assessment of hazardous waste management (National hazardous waste management report reviewed; Current business operation and future potentials at recycling waste plastic, e-waste and ULABs assessed; Report on BAT/BEP for the recycling of waste plastic, ULABs and e-waste prepared including unintentional POPs emission)
- Identification of pilot municipal waste management sites and development of project's technical strategies (Two sites suitable for pilot studies identified from Yaounde and Douala; Survey report on current municipal waste management in the pilot sites; Development of project action plans (both hard and soft measures) to improve the municipal waste management practice; Promote recycling operations, and reduce unintentional POPs emissions)
- Gap analysis of legal framework and assessment of country experience in environmental education in chemical safety (Gap analysis of legal framework on municipal and hazardous waste management as well as unintentional

POPs; Country report on existing chemicals related environmental education and communication infrastructure and activities reviewed).

- Information on current locations of open burning, healthcare waste practices and e-waste hotspots validated
- Inventories of uPOPs emissions from open burning, healthcare waste practices and PBDEs releases from e-waste hotspots reviewed and updated
- Best practices of waste (including healthcare and e-waste) carried out in selected municipalities.
- Specific e-waste products and plastics containing PBDEs are targeted
- BAT/BEP plans and e-waste hotspots in the participating cities using PPP models in cooperation with original Equipment Manufacturers (OEMs) are developed and implemented
- Cleaner biomass waste recycling and disposal options promoted
- Harmonized methodology at national level to set up release reduction targets for open burning, healthcare waste and e-waste sectors developed
- Socio-economic impacts of the project intervention on private and informal sectors including recycling business plan assessed
- Sustainable waste management practices promoted
- Recycling practices and increasing local expertise on management of controlled dumpsites/landfills replicated in other cities in Cameroon
- Environmentally sound management of municipal and hazardous wastes improved
- Safe disposal of POPs PBDEs-containing plastics developed
- Awareness programs on healthcare waste and E-waste management formulated and conducted
- Implementation of BAT/BEP for uPOPs reduction in participating healthcare facilities (including technology upgrades to meet standards where feasible) realized
- Guidelines of healthcare waste management technological alternatives elaborated

Component 3 Establishment of policy and legal framework to encourage sustainable chemical and waste management

Under this component, a policy and legislative framework to encourage sustainable municipal and hazardous waste management will be established. A number of legislation/regulation/standards and human resources capacity in implementing BAT/BEP will be developed with the aim of curbing open burning and establishing healthcare waste and e-waste management practices based on risk assessment. New tools and regulatory measures will be identified along with economic approaches for managing harmful chemicals and waste in a sound manner.

Targeted Outputs and activities

- Strengthened capacity for more sustainable municipal and hazardous waste management in Douala and Yaounde
- Transfer of knowledge on BAT/BEP and awareness raising on uPOPs related risk and exposure in open burning, healthcare waste and e-waste management sectors
- Integrated policy and legal framework developed for mainstreaming POPs and mercury management in healthcare sector
- Support Public-private partnership policies as main delivery mechanism for healthcare waste treatment
- Improve Public awareness, capacity and training activities for Policy makers, regulators, technicians, waste management staff and general public.
- Develop strategy for mercury free in healthcare facilities
- Legislations needed to address sound management of municipal and hazardous waste including those to better control unintentional POPs emission drafted and enacted
- Chemical safety awareness raising on adverse effects of toxics to which the formal and business sector workers could be exposed
- Capacity building program to enhance local knowledge and capacity to manage waste effectively.
- Support provided to diversified revenue sources for solid waste management
- Support for development of clear structure for private sector involvement
- Legal framework gap analyzed-
- Legislations needed to address sound management of municipal and hazardous wastes including those to better

control uPOPs emission drafted and enacted

- Regulatory measures formulated for discouraging open burning practices (including biomass residues), unsustainable healthcare waste and e-waste management
- Action plans for phasing out of waste (including biomass residue) open burning, healthcare waste and e-waste unsustainable management practices reviewed and strengthened.
- BAT/BEP guidance for uPOPs reduction, healthcare waste and e-waste management standards formulated and adopted
- Targeted training and awareness campaigns carried out to emphasize health and environmental risk and exposure hazards of open burning, healthcare waste and e-waste unsustainable management practices for all relevant target groups (political class, decision makers, professional associations, community leaders, farmers, private industries, retailers, scavengers, NGOs, media and the public at large)
- Adequate technical infrastructure built for implementing best practices, including BAT/BEP in healthcare waste, e-waste and other waste management practices.
- Environmental policies developed to support the improvement of healthcare waste and e-waste management
- UPOPs reduction and mercury free strategies for healthcare sector developed
- New legal and regulatory documents developed to support implementation of uPOPs reduction and mercury free strategy in the healthcare and e-waste sectors
- Guidance/ guidelines for good practices of HCWM developed to maximize uPOPs and mercury reduction
- Pilot model of Public – Private Partnership (PPP) conducted
- Models of PPP developed for supporting investment and development of healthcare waste and e-waste management
- Training program of uPOPs and mercury developed, integrated to HCWM training framework and implemented widely
- Application of BAT/BEP for mercury reduction in healthcare waste management facilities conducted

Component 4: Knowledge Management and Dissemination

This component will oversee the creation of knowledge products which relay information and data generated by the project, M&E documentation, and a dissemination mechanism for such knowledge products, including an online platform dedicated to project results which will serve as a portal for urban planning officials and practitioners across Cameroon to coordinate on current interventions and share experiences and best practices. Activities will be as detailed below:

- Proper M & E mechanism and methodology established
- Project experiences documented and presented in periodic M&E reports
- Knowledge products created showcasing project results to broader coalition of stakeholders (to be identified) as participants in Cameroon Sustainable Urban Development disseminated.
- GIS database and mapping system created with broad accessibility
- Relevant stakeholders engaged in multi-medium knowledge sharing platform with formal Web site, digital knowledge management system, and periodic knowledge products showcasing project programs, TK knowledge program, private sector engagement program, and open data information system.

1.4 Incremental/Additional Cost Reasoning and Contributions from the Baseline Incremental Reasoning

The contribution to the baseline for this project comes from activities and investments Cameroon has identified within the framework or scope of national priorities within the Country Strategy Paper (CSP) developed with the African Development Bank, which include infrastructure development, particularly the urban road network and related transportation infrastructure. The activities, which have resulted from these national strategies and policies, will form a strong baseline upon which this GEF project can build. Without GEF financing, cities in Cameroon will continue to develop in an uncoordinated and non-integrated manner related to sustainable urban planning practices. Important considerations and opportunities to reduce greenhouse gas emissions, protect urban biodiversity, and prevent and/or reduce other forms of environmental degradation will not be maximized. The reason for this is that the holistic integrated urban planning approach (combining considerations related to energy, waste, and transport) is new in the African context and has not been regularly implemented in West African cities.

Additionally, while the baseline investment will develop and rehabilitate some waste management infrastructure, no capacity building will be undertaken, and environmentally sound management practices and strategies are completely absent. The waste management activities financed by the GEF in this project will ensure that baseline infrastructure is utilized in the most sustainable way while ensuring that international best practices are transmitted to Cameroon, while also being integrated into the existing body of policy and legal framework.

Cameroonian cities were not planned to accommodate the recent population explosion and have been driven by the proliferation of informal settlements, which lack organization or coordination, and are not covered by official public services. From a technological standpoint, the identification of potential waste to energy activities, is a good entry point to link climate change mitigation to the reduction of harmful POPs and hazardous chemicals and waste. Policy and financial incentives must be put in place to encourage the uptake of more integrated approaches which take into consideration climate change mitigation as well while introducing comprehensive strategies to create a more sustainable model for urban development which takes into consideration multiple sectors and holistic environmental concerns – studies will be undertaken to identify the most appropriate measures for accomplishing this. An inquiry into feasible waste to energy and waste reduction methods will be conducted, prioritizing those which have the highest carbon impact and most relevant local implications.

Mitigation strategies must be integrated with urban planning and land use planning so as to promote dense, walkable, mixed land use cities in Cameroon and creating an open data inventory of data with GIS tools, so as to guide planning processes. While the baseline will finance the construction and rehabilitation of the urban road network, GEF activities will focus on ensuring that planning is sustainable and will promote the most efficient movement of people, services, and goods; as well as the introduction of GHG emissions and their contribution to climate change to the public through formalized programs for waste reduction in households. These endeavors will be financed with GEF funding.

Lessons learnt from other GE intervention in Africa

The project will build on results and experiences from African countries that have benefitted from GEF funding and other projects to drive municipal waste management projects and hazardous waste to reduce emissions UPOPs. The main experience which will be implemented in Cameroon during this project is to avoid open burning of waste by setting a new landfill (including a special area for healthcare wastes) with proper collection and elimination system. However, practical activities include (i) Training and awareness of waste-workers on solid and hazardous waste management, (ii) Raise awareness on the proper disposal of hazardous waste, (iii) Set up a valorization chain systems for used pesticide container, (iii) setup a pilot program to collect and eliminate Pesticide Stockpiles in Yaounde and Douala, (iv) training of Public and private health care facilities employees in proper healthcare waste management.

1.5 Global Environmental Benefits

CO2 EMISSION REDUCTION

The project baseline with GEF cofinancing will have significant global environment benefit in terms of CO2 emissions reduction from low carbon transport application is estimated to multiply. Interventions under the baseline project are expected to influence the replication of low carbon urban development models. With the various interventions that will be carried out under this proposed project and the expected outputs, it is estimated that the proposed project will result in 2.5million tCO2e direct emission reductions in Douala and Yaounde over a period of 10 years (project life). Of this amount, it is conservatively estimated that 30-50% is directly attributable to the GEF incremental activities outlined above. This estimate will be validated and an expanded upon during the PPG phase, during which reliable baseline data will be collected to formulate clear mitigation activities and measures.

We utilized the TEEMP model's Bottom-up approach for calculating indirect GHG reductions generally provides the lower extent in the range of possible indirect impacts from a project. It starts with the direct impacts of the investments under a project, and multiplies that number by a factor representing the number of times the project is likely to be replicated in other places/markets. For example, policy improvements and sustainable transport and urban planning measures developed through this GEF project, which include pedestrian improvements and which,

according to existing literature, can save 15-20% of CO₂ over the lifetime of the infrastructure. Judging from the local conditions, one could assume that within 10 years after the project ends, five more cities in the country will adopt at least 5 additional cities will have similar urban planning and development models in place which will achieve the same CO₂ reductions as those described in this PIF. The direct GHG emission reductions are then multiplied by the assumed factor of replication (five) to find the Bottom-up indirect reduction

UPOPs, HEALTHCARE WASTE, eWASTE and MERCURY

This project will help to reduce uPops emission from open burning at the dump sites and therefore assist Cameroon to meet the mandates of the Stockholm Convention. The uPOPs emission in Cameroon in 2013 has been estimated as 596 g-TEQ/Y and six sources are more preoccupying and urgent actions needs to be taken: savannah and forest fires (54% of emissions), medical waste incineration (18.3% of emissions), burning of municipal waste (15.2% of emissions) and the uncontrolled burning of household waste, agricultural residues (11% of emissions). The project will promote the BAT and BEP for sound management of municipal and hazardous waste. The project will support the informal recycling sector and people working at the dump sites by providing proper safety training and mitigation measures of the socio-economic impacts.

Additionally, as the open burning sector is also a significant contributor to greenhouse gas emissions such as carbon dioxide and methane, the project activities will not only result in the reduction of uPOPs but will also give a positive contribution to mitigate the Climate Change. Therefore the impact of the project activities will be monitored and correlated with this relevant issue.

The project is expected to achieve effective management of POPs-PBDE from e-waste. These targets are essential to minimize or even eliminate exposure to POPs of stakeholders directly involved in the disposal, dismantling, and recycling of e-waste, 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 e-waste to landfill sites, as well as mismanagement of healthcare waste 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.

During the project implementation, women and children who are often involved in e-waste business will be the recipients of IEC and trainings on health impact of improper e-waste handling. Children will be discouraged from participating in e-waste processing.

Successful implementation of the project will have significant effect on environmental degradation and potential risks to human health through the adoption of improved HCW management and instituting a strengthened stewardship role for Government in regulating, monitoring and enforcing effective HCWM policies and practices.

Furthermore, successful models of sound management of health care waste that reduce POPs emission at local level will be extended to other health care facilities. Public-Private Partnership models will also be extended, thus reducing public expenditures on health care waste and improving effectiveness of public investment as well.

The project will support the informal recycling sectors and people working at the dump sites by providing proper safety training as well as mitigation measures of the socio-economic impacts such a vocational training for those who are compelled to shift their income sources. Exposures to toxic fumes at the dump sites as well as lead recovering process at the e-waste recycling facilities.

The overall socioeconomic benefit of the project is ultimately derived from the increased capability for the country to capture, contain and eliminate POPs that would otherwise be released into the general environment with the impact that has on biological resources, inclusive of human health. The associated risk reduction at both a local and global level will positively impact the productivity of populations and reduce the financial burden imposed by potentially degraded public health, as well as contributing to general wellness and quality of life. This is particularly true for vulnerable parts of the population and for maternal health.

The GEB of the project will consist of the following:

- 20 g-TEQ/year reduction in releases of dioxins and furans (UPOPs) resulting from the improved management of municipal solid waste, healthcare waste and eWaste. The project's reduction figures will be well elaborated and calculated in more detail during the project's PPG phase. However at this stage of the PIF, the following estimations are provided :
- Reduction of 2.5 tonnes of Mercury releases from sound management of healthcare waste including used mercury-contained devices (thermometers, blood pressure meters, etc). The project's reduction target and activities will be more elaborated during PPG phase.

With GEF support, both cities of Douala and Yaounde will be able to set up a comprehensive and holistic policy/regulation framework for more sustainable urban waste management, develop more awareness of chemicals and waste safety practices for eWaste, Mercury and other UPOPs. The ultimate objective of this project is to help Cameroon to meet its obligations under the Stockholm Convention and the Minamata Convention.

1.6 Innovation, Sustainability and Potential for Scaling Up

Holistic integrated urban planning approaches (combining considerations related to energy, waste, and transport) are new in the African context and has not been regularly implemented in West African cities. This project is innovative in nature because it combines cross sectoral strategies to combat environmental degradation. Sustainability will be ensured through the provision of training and capacity building, which is a strong element in each of the three components. Activities for data collection following open data principles, which will ensure that data collected under this project is shared and accessible for planning officials, as well as subsequent projects. The availability of data will increase the likelihood of sustainability, as other cities in Cameroon with similar development patterns can follow the strategies utilized in this project. Additionally, support will be given for urban planning and policies at the national level, which will remain as a guideline for future planning in additional cities. Lastly, the online Web portal will remain after project closure and will be accessible to relevant stakeholders and the public so project results and knowledge can be accessed to guide following initiatives.

In term of project sustainability, it is proposed to have the Ministry of Environment and Cities municipalities (Yaoundé, Douala, Limbe) taking over and continue funding the activities, beyond the GEF funding.

It is planned to have some activities implemented by CDC (Cameroun Development Corporation), public owned agro-industrial company operating in tropical crops plantations (banana, Oil Palm, Rubber). Since CDC's activities produce important wastes including hazardous waste, and pesticide, it is proposed to have some co-financing from CDC to cover activities under this project beyond the project, to ensure sustainability.

In addition, the involvement of private sector entities will be assessed during the project preparation (CEO endorsement). This involvement may include development of Public-Private Partnership (PPP) for implementation of a waste to energy unit, a valorization of waste fertilizers, etc.

Currently, there is only one company in charge of waste collection, HYSACAM, which has signed a contract with municipalities. It is proposed to assess feasibility of setting a PPP between Municipalities and private companies to setup valorization unit of waste collected.

As shown in the table below, the waste management in Cameroon involves different entities with different objectives. The project objective is to avoid open burning of wastes by setting a comprehensive management system involving all partners, including valorization of waste by private sector entities.

DOMAINE D'INTERVENTION	ACTEURS INTERVENANT DANS LA GESTION DES DECHETS												
	MINEE	MINDUH	MINATD	MINDAF	MINSANTE	MINEP	Partenaires Internationaux	MINFI	MINIMDT	COMMUNES	MAGZI	ENTREPRISE	Autorités administratives Acteurs Non Gouvernementaux Ménages
Coordination des interventions et définition des responsabilités en matière de gestion des déchets	X	X	X		X	X		X	X				
Définitions des objectifs	X	X			X		X	X					
Capitalisation des informations	X	X											
Elaboration de la réglementation et des normes	X	X			X	X	X						
Conception des dispositifs	X				X		X						
Implantation des sites de traitement		X			X						X		
Contrôle technique du projet	X	X			X		X			X			
Financement des investissements						X	X	X					
Recyclage et valorisation des déchets													X
Réalisation des travaux				X								X	
Contrôle des chantiers et des équipements	X	X				X	X			X		X	
Réception et transfert éventuel des équipements	X									X			
Sensibilisation des populations	X	X			X	X	X						
Contrôle et surveillance de la pollution	X				X	X							
pré collecte et Collecte													X

Source: Cameroon National Strategy for Waste management (2007 – 2015)

2. *Stakeholders*. Will project design include the participation of relevant stakeholders from [civil society](#) and [indigenous people](#)? (yes ☐ /no ☐) If yes, identify key stakeholders and briefly describe how they will be engaged in project design/preparation.

The various stakeholders involved in the project are the following: (i) Public sector: Ministry of the Environment, the Protection of Nature and Sustainable Development (to oversee project implementation within the NCC); Ministry of Agriculture (to facilitate the replication of the technology for the disposal of large empty containers of pesticides in cooperation with the private sector); Ministry of Health (to facilitate the adaptation and replication of the sound technology for healthcare waste disposal); Ministry of Industry (to facilitate the participation of the selected industrial companies in waste recycling/disposal); Ministry of Planning (to facilitate the establishment of PPP); municipalities of Yaounde and Douala (lead the local steering committee, coordinate the project activities at the selected municipal levels, and replicate the project's approach to other cities of the country;); the Universities of Yaounde and Douala (to facilitate the development and implementation of lectures on waste and contaminated sites management for undergraduate and post-graduate levels). (ii) Private sector: Companies (to facilitate PPP in e-waste management, to participate in the PPP for the recycling of ULABs, to participate in the PPP for waste plastic recycling). These companies will provide technical expertise on recycling processes of lead, e-waste, and plastics. Such technical expertise is needed when informal sectors are reorganized to develop more formal recycling sectors. (iii) Civil Society and NGOs (to anchor the project activities as sustainable practice and further replicate the project's approach to other cities of the country, to participate in the survey on the method for the sound disposal of small empty pesticides containers, to contribute to the development and implementation of the programme on environmental training, education and communication on POPs and chemical safety). The finalization of the identification of other relevant stakeholders, especially for co-financing, will be one of the activities during the project document preparation phase (PPG).

National Level

Sector coordination will be the responsibility of the Ministry of Urban Development and Housing (MINDUH), which

will be in charge of designing, preparing, and applying the national policy; coordinating and monitoring operations and projects on urban development.

The Ministry of Planning, Development and Territorial Planning in its capacity as the structure in charge of coordinating sectoral policies, takes part in the definition of public investment expenditure guidelines.

Ministry of the Environment, the Protection of Nature, and Sustainable Development oversees the implementation of national policy on environmental protection and sustainable development.

Local Level

Urban Commune(s)/Council of Douala

Urban Communes(s)/Council of Yaounde

Urban planning practitioners from relevant private companies

Mayors of each city

Municipal Urban planning authorities

Municipal transportation authorities

Municipal housing authorities

NGOs

Cities Alliance

The Cities Alliance is a global partnership for urban poverty reduction and the promotion of the role of cities in sustainable development. The organization is working in Cameroon, and has recently implemented an Urban Development and Poverty Reduction project in Douala in partnership with the World Bank.

ICLEI Cameroon

ICLEI is a network of over 1,000 cities, towns, and metropolises focused on sustainable development. Several Camerounian urban councils are active members of ICLEI.

Development Partners

Aside from the African Development Bank, a number of bilateral and multilateral donors are involved in urban projects in Cameroon, including: the Japanese Government, the French Development Agency (AFD), the Islamic Development Bank (IDB), Belgian Technical Cooperation, KfW, the European Union, German Cooperation (GTZ), the Canadian International Development Agency (CIDA) and United Nations Agencies like the UNDP, UN-Habitat and UNICEF.

Private Sector

HYSACAM

The Societe Hygiene et Salubrite du Cameroun (HYSACAM) is a private company specialized in the disposal of solid waste. In Yaounde, HYSACAM collects and transports about 800 tons of garbage per day, processes household refuse, sweeps streets, public places and the city's markets.

SOCATUR

Socatur is the only certified Transport Company in Douala. Despite considerable challenges, Socatur has continued to slowly expand the bus network in Douala

TIC le Bus

The Bus is a public private partnership between a private investor and the city of Yaounde. The Mayor of Yaounde is the president of the Board of the company. Parker Transnational Industries LLC owns 66% of the company, with the remaining 34% owned by the State of Cameroon.

3. *Gender Considerations.* Are [gender considerations](#) taken into account? (yes ☐ /no ☐). If yes, briefly describe how gender considerations will be mainstreamed into project preparation, taken into account the differences, needs, roles and priorities of men and women.

According to the results of Cameroon's third population and housing census, Women constitute 50.6% of the Cameroonian population and are increasing in number at a rate of 10.1%, compared to 9.9% for men. Women further make up 25% of the head of households in Cameroon. (COMIFAC 2012). Women constitute a large part of the workforce, particularly in the agricultural sector, with women depending largely on natural resources, which are increasingly under threat from a rapidly changing climate, contamination by hazardous chemicals and waste, and biodiversity losses, for the livelihoods of their households. Small scale businesses, particularly in the the non-timber forest and fisheries sectors, small scale businesses are largely carried out by women with a focus on specific species for food and medicine (Lorena Aguilar- 2010 IUCN Report).

Keys sectors where gender disparities can be seen have been identified as education, health, employment and the environment. Women in Cameroon are largely excluded from land and natural resource ownership, with a possession of only 1-7% of landed property and earn an income of 1/3 as compared to 2/3 by men (COMIFAC, 2012). Environmental planning and decision making processes do not fairly represent women resulting in the exclusion of the priorities and needs of women. As an outcome, environmental planning does not adequately benefit from the knowledge possessed by women favorable to conservation and the sustainable use of resources. Biodiversity planning, projects and programs give little attention to the special needs of women for specific resources

4 Risks. Indicate risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, propose measures that address these risks to be further developed during the project design (table format acceptable).

1) Lack of baseline data on GHG emissions, emission factors, and other baseline data related to POPs - this is a medium level risk and will be mitigated production of studies in the early stages of implementation. Transport data and fleet composition data are still readily unavailable, but waste management, air quality, emissions reductions, and biodiversity conservation have been identified as priority concerns in Cameroon,

2) Low social acceptance of measures to decrease emissions from transport and other measures to encourage a shift toward reducing waste in households - This risk is considered medium to high, and will be mitigated though an organized outreach, knowledge dissemination, and public education efforts.

3) Poor coordination and lack of alignment among government and municipal agencies - This is a present but low risk. The main risk arising from coordination is lack of technical capacity and this will be mitigated through the provision of technical assistance provided in each component of this project. The government agencies are well aware of the need for more sustainable urban planning and waste management solutions in Cameroonian cities, and the project has received strong support from different levels of the Cameroonian government, which indicates that there will be strong local ownership

4) Weak capacity for project coordination is a low risk and will be mitigated through the establishment of a comprehensive coordination process in the PPG stage. There are a number of climate change and environmental entities which will be engaged, and for waste management, upon completion of the NIP development process, the coordinating mechanism that was set up has since been upgraded to a National Committee of Coordination (NCC) (the Ministry in charge of Environment is the responsible) and funds are secured in the national budget to ensure its regular functioning.

5) A lack of support from the municipalities involved in the project for cleaner hazardous waste management is a medium level risk. From the early stages of project preparation, municipalities involved will be associated to the process for awareness raising and capacity building.

6) Weak commitment and participation from private sector and and local civil society organizations is a low to medium level risk. A thorough and detailed stakeholder analysis and consultation process will be undertaken during the PPG stage to ensure private sector and civil society involvement. The success of this project hinges on the engagement of a broad and diverse set of stakeholders across relevant sectors - waste, transport, housing, and the public sector.

7) Increase methane emissions from waste management dump sites is a very real risk, rated at medium. Efforts will be undertaken to mitigate this risk. While Emission reduction of uPOPs could be achieved by avoiding spontaneous combustion at the dump sites, methane in biogas produced from dump sites could increase when combustion is suppressed. The collection of biogas will be considered as a technical option; the price and the benefits will be compared to see if biogas collection would make sense. Additional technical solutions will be implemented at dump sites following international best practice to ensure that methane leakage is monitored and reduced.

5. Coordination. Outline the coordination with other relevant GEF-financed and other initiatives.

The AfDB currently has another urban project in Cameroon which is CEO endorsed. The project is mainly focused on building resilience to climate change in urban settings and is entitled “Enhancing the Resilience of Poor Communities to Urban Flooding in Yaounde.” The project aims to alleviate poverty in urban communities in Yaounde City, to improve the living conditions of the population, and build capacity among stakeholders to respond to increasing flood risks. There will be close coordination with the AfDB Field Office in Yaounde to ensure that knowledge accumulated as a result of this project will be integrated into the forthcoming project as it evolves.

There have been numerous GEF-financed community-based biodiversity projects implemented in Cameroon, mainly focusing on biodiversity protection in the country’s forests and protected areas. There has not yet been a biodiversity conservation project implemented in urban areas, but this project will draw from lessons learned to find synergies that may be applicable from rural and community based experiences.

There are also two POPs projects being implemented in Cameroon with GEF-financing – one focusing on PCB reduction and the other on the disposal of POPs and obsolete pesticides. One project on enabling activities for the Stockholm Convention has closed. Hysacam, the private waste management company is implementing a CDM project on biogas capture and processing in Central Africa’s first biogas processing plant at the waste facility in Nkolfoulou (a suburb of Yaounde).

The World Bank has a long history of working in Cameroon, including in the first urban development project in the country and recently through an urban sector development and water supply project. KfW is preparing a water and sanitation project in Yaounde and four secondary cities; and UN-Habitat has prepared a restructuring of squatter settlements in Yaounde

This project will coordinate closely with aforementioned active projects, and take lessons learned from closed projects to guide the development of activities in relevant sectors throughout the implementation phase

6. *Consistency with National Priorities.* Is the project consistent with the National strategies and plans or reports and assessments under relevant conventions? (yes ☒ /no ☐). If yes, which ones and how: NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, etc.

Cameroon signed the Stockholm Convention on persistent organic pollutants (POPs) in May 2001 and ratified it in May 2005. Following that the country successfully formulated the National Implementation Plan (NIP), pursuant to Article 7 of the Convention, with the technical assistance of UNEP and submitted its NIP to the Convention in 2013. Based on indicative data, solid municipal waste management, healthcare waste management, open burning of agricultural residue and bush fires were identified as the main activities that release unintentionally produced POPs (uPOPs) in Cameroon. The baseline of the uPOPs inventory in the country needs to be refined with the experience and knowledge so far gained through various training workshops. The NIP also points out a shortage of qualified technical personnel for the management and analysis of POPs and their related waste, in addition to very poor national technical infrastructure, weak knowledge and very low awareness on POPs.

The proposed project is in line with the GEF6 focal area of CW-1 to phase out POPs and reduce POP releases; Action plans addressing unintentionally produced POPs under development and implementation as well as sound chemicals management in general. The proposal is consistent with the priorities identified in the Cameroonian NIP: (i) strengthening of POPs management– related legal and institutional framework; (ii) performing pilot demonstration projects for the environmentally sound management of POPs. The project’s focus on open burning is also consistent with the Cameroonian NIP where poor thermal disposal (open burning and poor incineration) was identified as the main factor of unintentionally produced POPs.

Improving waste management is relevant not only for environmental protection, but also for public health and sanitation promotion. Vulnerable social groups involved in waste recycling include women and young people under poverty stress, who strongly rely on this activity to secure main or additional income. This project will upgrade waste recycling sites (dump site for municipal and hazardous wastes as well as used lead acid batteries, e-waste, plastic waste, healthcare waste). It will then enhance job opportunities both for women and men while reducing/eliminating exposure risk to uPOPs, lead, and other toxics. Training of workers (women and men) on selected project sites will lead to diversification of waste recycling concepts in the country, by then preventing much more hazardous waste

from open-burning, source of uPOPs and harmful substances like lead. The interventions of the project will help alleviate social and economic degradation both for men and women in the sector of waste management. Gender analysis will be carried out to set proper indicators and goals.

The Cameroonian Ministry of Environment and Sustainable Development has incorporated the concept of sustainable development in its waste management strategy document, structured around three priorities: 1) Prevent and reduce the production and harmfulness of waste by developing clean and more resource efficient technologies; 2) Ensure that more waste is recovered and recycled; 3) Dispose of non-valuable waste in a sustainable way. According to Cameroon's National Implementation Plan (NIP), the Ministry of the Environment, the Protection of Nature, and Sustainable Development develops and implements policy on sustainable development and environmental protection through the National Environmental Management Program, and includes an Environment Programme (EP). The EP is compiled through a participatory process, and lays out priority areas for meeting Stockholm Convention obligations. Under Cameroon's latest EP, urban sanitation is highlighted as a priority area.

According to Cameroon's National Biodiversity Strategy and Action Plan (NBSAP), urban land use change, urban development, and inadequate municipal and urban waste management issues are identified as major contributors to biodiversity losses. Other key drivers include demographic patterns, migration, and urbanization; as well as lack of awareness and social practices.

Cameroon has submitted not yet submitted a NAMA, but has submitted a Note Verbale to the UNFCCC in lieu of a NAMA. Road transport and motorization is highlighted as a major contributor to national GHG emissions in Cameroon's National Communication to the UNFCCC, which makes this project in line with key drivers contributing to national .

7. Knowledge Management. Outline the knowledge management approach for the project, including, if any, plans for the project to learn from other relevant projects and initiatives, to assess and document in a user-friendly form, and share these experiences and expertise with relevant stakeholders.

The project's fourth component is devoted to knowledge management. The KM strategy will focus on collecting project level data, results, and lessons, and collating them in accessible and open databases. Open data will be a key feature of the project, so that project results will be accessible to urban planners, policy officials, and development partners, who will also be able to add to the growing body of data on sustainable urban development in Cameroon.

For waste management, among the most important factors in these strategies is the recovery of hazardous wastes and their transformation into useful material. Technology application, modification and development of new low-waste technologies are therefore currently a central focus of hazardous waste minimization.

- (a) Integration of cleaner production approaches and hazardous waste minimization in all planning, and the adoption of specific goals;
- (b) Promotion of the use of regulatory and market mechanisms
- (c) Establishment of an intermediate goal for the stabilization of the quantity of hazardous waste generated
- (d) Establishment of long-term programmes and policies including targets where appropriate for reducing the amount of hazardous waste produced per unit of manufacture;
- (e) Achievement of a qualitative improvement of waste streams, mainly through activities aimed at reducing their hazardous characteristics;
- (f) Facilitation of the establishment of cost-effective policies and approaches to hazardous waste prevention and management, taking into consideration the state of development of each city

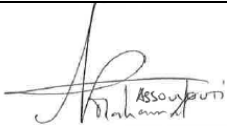
PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)

A. RECORD OF ENDORSEMENT⁹ OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S):
(Please attach the [Operational Focal Point endorsement letter](#)(s) with this template. For SGP, use this [SGP OFP endorsement letter](#)).

NAME	POSITION	MINISTRY	DATE (MM/dd/yyyy)
Justin Nantchou Ngoko	Director	MINISTRY OF ENVIRONMENT, PROTECTION OF NATURE, AND SUSTAINABLE DEVELOPMENT	01/18/2015

B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF policies¹⁰ and procedures and meets the GEF criteria for project identification and preparation under GEF-6.

Agency Coordinator, Agency name	Signature	Date (MM/dd/yyyy)	Project Contact Person	Telephone	Email
Mahamat ASSOUYOUTI, African Development Bank		07/30/2015	Jose TONATO	+225 2026 2611	j.tonato@afdb.org

C. ADDITIONAL GEF PROJECT AGENCY CERTIFICATION (APPLICABLE ONLY TO NEWLY ACCREDITED GEF PROJECT AGENCIES)

For newly accredited GEF Project Agencies, please download and fill up the required [GEF Project Agency Certification of Ceiling Information Template](#) to be attached as an annex to the PIF.

⁹ For regional and/or global projects in which participating countries are identified, OFP endorsement letters from these countries are required even though there may not be a STAR allocation associated with the project.

¹⁰ GEF policies encompass all managed trust funds, namely: GEFTF, LDCF, and SCCF