

Concept Note

Project/Programme Title: Implementation of composting plant

Country(ies): Gabon

National Designated Authority(ies) (NDA): Conseil National Climat

Accredited Entity(ies) (AE): _____

Date of first submission/
version number: [YYYY-MM-DD] [V.0]

Date of current submission/
version number [YYYY-MM-DD] [V.0]



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Notes

- The maximum number of pages should **not exceed 12 pages**, excluding annexes. Proposals exceeding the prescribed length will not be assessed within the indicative service standard time of 30 days.
- As per the Information Disclosure Policy, the concept note, and additional documents provided to the Secretariat can be disclosed unless marked by the Accredited Entity(ies) (or NDAs) as confidential.
- The relevant National Designated Authority(ies) will be informed by the Secretariat of the concept note upon receipt.
- NDA can also submit the concept note directly with or without an identified accredited entity at this stage. In this case, they can leave blank the section related to the accredited entity. The Secretariat will inform the accredited entity(ies) nominated by the NDA, if any.
- Accredited Entities and/or NDAs are encouraged to submit a Concept Note before making a request for project preparation support from the Project Preparation Facility (PPF).
- Further information on GCF concept note preparation can be found on GCF website [Funding Projects Fine Print](#).

A. Project/Programme Summary (max. 1 page)			
A.1. Project or programme	<input checked="" type="checkbox"/> Project <input type="checkbox"/> Programme	A.2. Public or private sector	<input checked="" type="checkbox"/> Public sector <input type="checkbox"/> Private sector
A.3. Is the CN submitted in response to an RFP?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, specify the RFP: _____	A.4. Confidentiality¹	<input type="checkbox"/> Confidential <input checked="" type="checkbox"/> Not confidential
A.5. Indicate the result areas for the project/programme	<p>Mitigation: Reduced emissions from:</p> <input type="checkbox"/> Energy access and power generation <input type="checkbox"/> Low emission transport <input checked="" type="checkbox"/> Buildings, cities and industries and appliances <input type="checkbox"/> Forestry and land use <p>Adaptation: Increased resilience of:</p> <input checked="" type="checkbox"/> Most vulnerable people and communities <input checked="" type="checkbox"/> Health and well-being, and food and water security <input type="checkbox"/> Infrastructure and built environment <input type="checkbox"/> Ecosystem and ecosystem services		
A.6. Estimated mitigation impact (tCO₂eq over lifespan)	245 tCO ₂ eq (plant operation: 25 years)	A.7. Estimated adaptation impact (number of direct beneficiaries and % of population)	845,000 people (38% of the country's total population)
A.8. Indicative total project cost (GCF + co-finance)	Amount: USD 48.8 million	A.9. Indicative GCF funding requested	Amount: USD 39.24 million
A.10. Mark the type of financial instrument requested for the GCF funding	<input checked="" type="checkbox"/> Grant <input type="checkbox"/> Reimbursable grant <input type="checkbox"/> Guarantees <input type="checkbox"/> Equity <input type="checkbox"/> Subordinated loan <input type="checkbox"/> Senior Loan <input type="checkbox"/> Other: specify _____		
A.11. Estimated duration of project/ programme:	5 years	A.12. Estimated project/ Programme lifespan	25 years
A.13. Is funding from the Project Preparation Facility requested?²	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Other support received <input type="checkbox"/> If so, by who: _____	A.14. ESS category³	<input type="checkbox"/> A or I-1 <input type="checkbox"/> B or I-2 <input checked="" type="checkbox"/> C or I-3
A.15. Is the CN aligned with your accreditation standard?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	A.16. Has the CN been shared with the NDA?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
A.17. AMA signed (if submitted by AE)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If no, specify the status of AMA negotiations and expected date of signing: _____	A.18. Is the CN included in the Entity Work Programme?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
A.19. Project/Programme rationale, objectives and approach of programme/project (max 100 words)	<p>Gabon's coastal capital city Libreville accommodating about 38 % of the total population is facing to waste management issue and climate change vulnerability. This project aims to introduce waste composting plant and integrated waste management system in order to realize the country's climate mitigation and adaptation objectives. While addressing waste issue in the city, this project will also enhance climate resilience of the Gabonese farmers by enabling them to access to domestically produced compost, which lead to enhance the country's food security. The approach of this project is designed based on Gabon's low-carbon development strategy and financially sustainable Public-Private-Partnership scheme.</p>		

¹ Concept notes (or sections of) not marked as confidential may be published in accordance with the Information Disclosure Policy ([Decision B.12/35](#)) and the Review of the Initial Proposal Approval Process ([Decision B.17/18](#)).

² See [here](#) for access to project preparation support request template and guidelines

³ Refer to the Fund's environmental and social safeguards ([Decision B.07/02](#))

B. Project/Programme Information (max. 8 pages)

B.1. Context and baseline (max. 2 pages)

Located in the west Africa, Gabon has been particularly vulnerable to climate hazards including sea level rise, seasonal flooding, rising temperature, intensive precipitation and extreme winds.⁴ In the coastal cities accommodating over 70% of the country's 2.2 million people, the waste management sector is one of the sectors that is facing to climate risks and being responsible for climate mitigation actions. The municipal waste left untreated or ill-treated would be a threat to public health exacerbated by Gabon's climate risks such as intensive rainfall, increasing temperature, and increased occurrence of inland and coastal flooding which will result in prevalence of new disease vectors. Furthermore, the sector is also responsible for increasing emissions of greenhouse gas including methane. This project is, therefore, addressing to promote integrated waste management by installing and operating a waste composting plant in Gabon, in order to reduce waste emissions and enhance climate resilience and livelihoods of vulnerable communities.

The greenhouse gas (GHG) inventory in the Third National Communication submitted to UNFCCC shows that Gabon is a net carbon sink due to the country's large forest coverage extended to 88% of the territory.⁵ However, without the Land Use, Land-Use Change and Forestry (LULUCF), the net GHG emissions accounted for 5,225 Gg eq CO₂ in 2009.⁶ The waste sector had increased its GHG emissions from 0.54 Gg CO₂ eq in 1994 to 1.73 Gg CO₂ eq in 2009, which is an increase of 69%.⁷ The emission of methane (CH₄) from municipal solid waste accounts the highest ratio of GHG emissions in the waste sector.⁸

In Gabon, both the annual waste volume and the daily average waste volume per person had increased over the period of 2005 to 2015; 176,26 Gg in 2005 to 270,07 Gg in 2015 and 0.66 kg/person/day in 2005 to 0.79 kg/person/day in 2015.⁹ In the capital city Libreville alone, the daily waste volume per person was 0.9kg in 1996, which was 1.8 times heavier than the average estimated volume of 0.5 kg/day/person in main cities in the emerging economies.¹⁰ One of the main causes of this weight differences is considered to be high ratio of fermentable materials in wastes.¹¹ Another data shows that about 25% of waste in one (1) square meter at the Mindoubé landfill near Libreville is composed by biodegradable organic matter.¹²

The waste management is one of the country's pressing issues identified in its Country Program submitted to GCF.¹³ It has been causing environmental, health and social problem in the coastal urban areas.¹⁴ Climate impacts have been adversely affecting the sector together with the increase of waste volume due to population growth.¹⁵ For instance, the sea level rise and increased occurrence of heavy rain cause influx of seawater into rivers and exacerbated inland flooding, which damages sanitation infrastructure and causes the spread of fecal waste through flood water.¹⁶ They also cause groundwater pollution attributed to the inadequate landfill managements. The temperature rise also contributes to increased methane emission from decomposition of wastes. Furthermore, the insufficient waste collection may cause more uncontrolled waste dumping in the city areas that put the country at very high risk of infectious diseases such as vector borne diseases.¹⁷ In terms of gender aspect, a field survey shows that waste disposal chore is burdened by male household members (boys or husbands/men) with 64.5%. However, female children (32.74%) are the most exposed to waterborne diseases followed by male children (30.72%),¹⁸ which suggests a disproportionate public health affect.

From the agricultural aspect, the difficulty in accessing to affordable fertilizer is a pressing issue for Gabon who imports over 275,000 tons of food products, that is equivalent of food import dependency ratio of about 60%.¹⁹ Following the peak

⁴ World Bank (2021). [Climate Risk Country Profile Gabon](#).

⁵ National Climate Council, Republic of Gabon (2022). [Troisième Communication Nationale](#)

⁶ *ibid.*

⁷ *ibid.*

⁸ National Climate Council, Republic of Gabon. Plan National Climat

⁹ Conseil National Climat, République Gabonaise (2022). [Troisième Communication Nationale](#)

¹⁰ Mvele-n'dango'o Pierre-claver (2007). [La gestion des ordures ménagères à Libreville et Abidjan](#).

¹¹ *ibid.*

¹² National Climate Council, Republic of Gabon. Plan National Climat

¹³ Green Climate Fund. [Country Programme Gabonese Republic \(2018\)](#).

¹⁴ *ibid.*

¹⁵ *ibid.*

¹⁶ World Bank (2021). [Climate Risk Country Profile Gabon](#).

¹⁷ Central Intelligence Agency. [The World Factbook - Gabon](#)

¹⁸ Ministry of Energy and Water of Republic of Gabon and African Development Bank (2018). [Final Report. Projet de Renouveau, Renforcement et Extension du Réseau d'Eau du grand Libreville \(PRERAEP\)](#)

¹⁹ African Development Bank (2017). [Technical Support for the Agricultural Transformation Strategy and Promotion of Youth Entrepreneurship in the Agricultural Sector and Agri Business](#)

amount of 60.62 kilogram in 2017, the fertilizer consumption in Gabon has continuously decreased to 21.17 kilogram per hectare in 2021,²⁰ which inversely relates to price surge at the international fertilizer market. Due to climate impacts in Gabon such as longer dry seasons, water scarcity and drought, the farmers will need to increase fertilizer consumption to ensure their productivity, while protecting soil health. In this regard, domestically produced compost can enhance climate resilience and food productivity of the Gabonese agricultural sector by improving access to fertilizer for the farmers.

In its **Nationally Determined Contribution (NDC)**, Gabon is committed to at least halve the GHG emissions compared to the business-as-usual (BAU) by 2025.²¹ For the waste management sector, it is committed to reduce the GHG emissions by 16%, equivalent to more than 2,000 Gg CO₂, over 2015-2025.²² Another Gabonese climate policy, namely **the National Strategy for the Adaptation of the Gabonese Coastline to the Effects of Climate change (Le Stratégie nationale d'adaptation du littoral gabonais face aux effets des changements climatiques)** aims to achieve an integrated coastal management with proposition of necessary actions in five different cities. However, the strategy has not been fully realized due to the insufficient investments. For the waste management sector, it was recommended for two of the five cities (Libreville and Port Gentil) to create an institutional and sectoral coordination unit to fully enforce the regulations to establish waste management structure (i.e., collection, removal and treatment of waste).²³ The country's low-carbon development plan "**Plan stratégique Gabon Émergent (PSGE, 2012)**" specifically suggests that the need of waste recycling including production of fertilizer to benefit Gabonese people. It also aims to encourage businesses to minimize solid wastes to realize environmentally friendly tourism. Under the article 97 of **the environment protection law (Le Loi n° 007/2014 du 01 août 2014 relative à la protection de l'environnement en République gabonaise)**, reduction of waste source is stipulated as a primary measure of waste treatment, and to this end, waste must be reused and/or recycled.²⁴ Another directive (**Décret n° 0076/PR du 11 juin 2019 portant création et organisation d'un Haut-Commissariat à l'Environnement et au Cadre de Vie à la Présidence de la République**) also stipulates to promote waste recovery programs. In this light, this propose waste composting project is clearly in line with the objectives of the country.²⁵

In Gabon, a few projects for the waste management sector are implemented, though they are not directly addressing to waste composting. For instance, a project to transform agricultural and forestry waste into charcoal briquettes for cooking and power generation use is currently implemented by the United Nations Development Programme.²⁶ The other project was to convert forestry and sawmill waste into biomass energy implemented by the CTCN.²⁷ Funded by the World Bank, Gabon also developed a Biomedical Waste Management Plan as part of the preparedness and strategic response project for Covid-19.²⁸ Furthermore, a recycling project of plastic bottles has been implemented by a private brewery company and a private recycling company.²⁹ Although those projects are focusing on different type of wastes and different recycling streams, they resonate with this waste composting project to enhance overall awareness and capacity to divert and utilize waste for a new purpose.

Although the detailed impact of Covid-19 is unclear due to the insufficient data, the Covid-19 outbreak restricted the usual operation of the waste management sector by prolonged lockdowns, which lead to uncollected waste remained in city areas. Untreated wastes can pose a serious risk to the country's public health which is already at high risk of infectious disease due to climate change impacts such as rising temperature and intensified rain. Therefore, this project is also essential to address minimizing abandoned waste in the city areas by introducing the integrated waste management system.

B.2. Project/Programme description (max. 3 pages)

The overall objective of the project is to promote integrated waste management by installing and operating a waste composting plant in Gabon, in order to reduce waste emissions and enhance climate resilience and livelihoods of

²⁰ Source: World Bank, [World Development Indicators](#)

²¹ Republic of Gabon (2015). [Contribution prévue déterminée au niveau national](#)

²² *ibid.*

²³ [Stratégie Nationale d'Adaptation du littoral gabonais face aux effets des changements climatiques Document No1 Introduction et méthodologie](#)

²⁴ Republic of Gabon [Loi n°2014-07 du 1er aout 2014 Relative a la protection de l'environnement](#)

²⁵ Republic of Gabon [22 Juillet 2019 - N°27. Ter Jornal Officiel de La République Gabonaise](#)

²⁶ UNDP, [Récupération des déchets agricoles et forestiers au Gabon pour une énergie durable](#)

²⁷ CTCN, [Study on the valorization of forest biomass waste into energy](#)

²⁸ World Bank, [Revised Infection Control and Waste Management Plan \(ICWMP\) GABON COVID-19 Strategic Preparedness and Response Project.](#)

²⁹ Stanislas Ndayishimiye, "[Le Gabon se met à l'heure du recyclage des déchets plastiques](#)", Radio France international, August, 3, 2021.

vulnerable communities. The waste composting plant will be deployed and operated in Libreville, the capital and largest city of Gabon where environmental degradation and pollution is evident as a result of insufficient waste management.

The theory of change is expressed as follows:

IF a waste composting plant is installed and operated in Gabon, **THEN** waste emissions are reduced as well as leading to enhanced livelihoods, **BECAUSE** integrated waste management will be practiced while supported by sustainable business models.

The diagram of the Theory of Change is provided in Annex.

Proposed outputs and activities are described below:

Component 1: Strengthened enabling environment for integrated waste management and waste composting

Output 1: Established policy instruments to implement integrated waste management practices

As indicated in the previous section, the current policy and institutional environment in Gabon is insufficient in facilitating and implementing integrated waste management practices, as well as engaging relevant stakeholders including the private sector. Establishing an enabling environment for integrated waste management through the proposed activities is essential to achieve the objectives of components 2 and 3. In particular, an enabling environment that promotes effective waste sorting is needed for waste composting, as the availability of uncontaminated organic materials is a critical determinant in whether a composting project can succeed or not.

Activity 1.1 Institutional capacity building

This activity aims at strengthening the capacities of relevant government institutions in the waste sector. This activity will enable them to make informed decisions to design the required policies such as regulations, standards, fiscal instruments and incentives, among others, to support the implementation of integrated waste management and waste composting in Gabon.

Activity 1.2 Technical capacity building of government institutions on integrated waste management

This activity aims to enhance the technical capacity of relevant government institutions responsible for the collection, transportation, handling and overall management of waste. This would allow them to build technical know-how, to better implement integrated waste management services and activities.

Activity 1.3 Formulate and enforce relevant policies and standards

Once capacities of key government institutions are enhanced, they will be well-informed to develop clear legal framework to regulate the sector. In this regard, Gabon has no legal framework on integrated waste management thus far. Therefore, the first step of this activity is to develop a legal framework on integrated waste management that clearly indicates the roles and responsibilities of each institution along various levels (national, local, and community), sector-specific goals and targets, as well as proposed actions and implementation plans. This overall policy framework can support in mainstreaming integrated waste management and its practices among different elements of society.

Activity 1.4 Develop coordination mechanism that includes the private sector

A coordination mechanism that incorporates private sector stakeholders will be established to ensure the exchange of information and collaboration among stakeholders. This mechanism is necessary to effectively implement the activities related to integrated waste management and waste composting.

Output 2: Enhanced awareness and technical knowledge, as well as developed policies on waste composting

Waste composting has not been widely implemented yet in Gabon. Thus, it is critical to raise the awareness and enhance the technical know-how on this technology among the stakeholders, including the private sector. The successful implementation of waste composting cannot be realized without the acceptance, support and participation of the general population from individual Gabonese to large companies. This output also includes the development of appropriate policies and regulations to incentivize waste composting in the country. This output will create an enabling environment that would allow a successful implementation and operation of a waste composting plant in component 2.

Activity 2.1 Awareness raising on integrated waste management and waste composting

The objective of this activity is to raise awareness of relevant stakeholders and communities on integrated waste management and waste composting. Awareness raising can be achieved through the dissemination of information regarding benefits of implementing integrated waste management and waste composting, and how these can alleviate environmental, social, economic, safety and health issues.

Activity 2.2 Technical capacity building of relevant stakeholders on waste composting

Similar to the previous activity, enhancing the technical capacity on waste composting is necessary as the technology have not been implemented yet in Gabon. Technical expertise on waste composting would allow stakeholders to develop appropriate projects and activities to implement waste composting in the country.

Activity 2.3 Develop and enforce regulations and standards relevant to waste composting

Policies to encourage waste composting such as a framework indicating targets for organic waste recycling and landfill diversion, regulatory measures and product quality standards, and disposal bans need to be formulated and enforced. This activity also will consider competing policies that may hinder the dissemination of waste composting, like agricultural policies that promotes the use of synthetic fertilizers.

Component 2: Improved waste management practices through the installation and operation of waste composting plant, contributing to emissions reduction

Output 3: Improved livelihood through the installation and operation of waste composting plant

Through this output, a project to install and operate a waste composting plant in Libreville will be prepared and implemented. A feasibility study will be conducted initially to determine the amount of waste available for composting, which in turn will determine the type and scale of the waste composting technology. This output will also establish a financial mechanism that would allow the operation of the waste composing plant financially self-sustaining.

Activity 3.1 Feasibility study

Conducting a feasibility study to obtain the necessary data in developing the project in the next activity. It is unclear how many households are receiving a periodical waste collection in Libreville. Furthermore, it has been pointed out that the less urbanized areas receive less frequent waste collection service compared to the more urbanized areas. Therefore, the feasibility study aims to establish a basis for an integrated waste management including waste collection.

Activity 3.2 Project preparation

A pilot project will be prepared based on the results of the feasibility study. This activity includes identifying the appropriate waste composting technology (in-vessel or windrow composting), determining the location of the waste composting plant, and securing the necessary financial resources to implement the project. Costs and activities at this stage include financial and engineering advisory services, staff and general administrative and permitting costs.

Activity 3.3 Project implementation

This activity entails the entire construction process of the waste composting plant until reaching start-up of commercial operation (including construction and commissioning). The proposed location of the waste composting plan is Libreville.

Activity 3.4 Establish financial mechanism

This activity focuses on securing capital for additional costs that are required other than construction of the composting plant. Other costs associated with composting includes sourcing feedstock (collection and transport), operation and maintenance of facilities, and end-product transportation.

Component 3: Identified market opportunities and enhanced use of compost products to enhance livelihoods

Output 4: Developed a market for compost products to establish sustainable business models

Developing a market to distribute compost products is critical in order to establish a sustainable business model for waste composting. This is because the direct revenue obtained from selling compost products will be an important source of revenue for the composting operation. Even though there are several potential customers for compost, this output will focus on selling compost to farmers to enhance their climate resilience.

Activity 4.1 Market analysis

A market analysis will be conducted to evaluate qualitative factors such as customer characteristics, as well as quantitative factors including market opportunity within each potential customer segment. Specifically, it will analyze characterizations of each segment's volume demand, purchasing patterns (e.g., timing, frequency), segment size, and willingness to pay. The analysis also will cover elements such as production and sales volume of compost, sales price, potential sales routes and volume, as well as the farmers' acceptance towards compost.

Activity 4.2 Awareness raising of end users

Since waste composting is still an emerging concept in Gabon, awareness raising activities will be implemented targeting potential end users of compost products.

Activity 4.3 Incentivize private sector participation

Fiscal incentives in the form of tax holidays and breaks, reduction of value-added tax or sales tax will be considered to promote private sector participation in composting. Given compost market is still emerging in Gabon, private farms

producing compost, including firms operating organic waste collection, would be the potential target for fiscal incentives in order to encourage their market participation.

Activity 4.4 Deploy composts in the agricultural sector to enhance resilience

Composts are sold to farmers so that they can use composts to improve crop productivity while adapting to climate change impacts. This activity will also include the awareness raising of farmers so farmers can realize the long-term benefits of utilizing composts.

Rationale for XX as Accredited Entity

[To be added]

Implementation arrangements

XX will act as the Accredited Entity for the proposed project. The executing entity will be the Ministry of Decentralization, Cohesion and Territorial Development (MDCTD). MDCTD will take direct responsibility for the execution of project activities and report to XX *[Name of an Accredited Entity to be inserted]* in accordance with standard procedures. There will also be involvement of Ministry of Agriculture, Livestock, Fisheries and Food (MALFF) as a collaborating entity in order to disseminate composting in the agricultural sector.

A Project Coordination Committee (PCC) will be established to oversee the progress of the project and to ensure the implementation of the project. The PCC will be comprised of a National Project Coordinator, Assistant Project Coordinator, Monitoring and Evaluation Officer, Administrative and Financial Officer, Technical Officer, Support Staff, among others. The PCC will include representatives from MDCTD, MALFF, Ministry of Economy and Economic Recovery, Ministry of Social Affairs and Women's Rights, Private Sector, and Civil Society. The PCC will be mainly responsible for leading the overall management of the project, supporting local units in achieving the project's objectives, and facilitating communication among stakeholders. The PCC will report to XX on a regular basis.

Risk and Mitigation measures

Risk description	Mitigation measures
Risk 1: Inadequate coordination among stakeholders in implementing the project	Participatory stakeholder consultations will be held during the project development and implementation phases to ensure alignment between the project, national priorities and local needs. Monthly or bi-monthly meetings among stakeholders will also be conducted throughout the project implementation.
Risk 2: Insufficient capacity of institutions to implement the activities	Capacity building activities are incorporated throughout the project activities, and as necessary, these institutions will be supported by international experts.
Risk 3: Lack of necessary data in developing the project	Feasibility studies and stakeholder consultations will be conducted to obtain necessary data
Risk 4: Local communities including women may feel that the project developers are not adequately addressing their needs	Local communities including women will be prioritized in the project development by involving them in the decision-making processes. Furthermore, the implementing partners will encourage to project developers to prioritize employment of women and local people in the waste composting plant.
Risk 5: Limited interest of the private sector to participate in waste composting services	The project will develop a policy framework that encourages the participation of the private sector, including the use of targeted subsidized financing of capital investment.
Risk 6: Reluctance towards fertilizer from organic waste that may impede the market expansion	The project will include activities to promote safety and benefits of fertilizer to local community and to establish regulatory measures and product quality standards to ensure quality of fertilizer.

B.3. Expected project results aligned with the GCF investment criteria (max. 3 pages)

The expected impacts of this project are aligned with the GCF investment criteria:

Impact potential: The project is aligned with GCF thematic areas to enhance the capacity of 845,000 people (the estimated population of Libreville) as well as the Gabonese farmers by improving their climate resilience and individual and public health as well as enhancing climate mitigation capacity through the adoption of waste composting. The project

activities aim to install waste composting plant together with an integrated waste management system and the market expansion of compost, while reducing the volume of organic waste ending up to landfills. Through the project implementation, 245 tCO₂eq of GHG emission will be potentially reduced. This will mostly result from suppressing methane emission from landfills. Furthermore, the improved waste management system will benefit the sanitation of the city and mitigate the potential threats of infectious diseases derived from abandoned wastes, which is expected to occur more frequently due to temperature rise. In addition, accessible compost fertilizer will benefit Gabonese farmers to improve agricultural productivity, hence their incomes and the country's food security.

Paradigm shift: This project seeks to achieve the Gabon's low-carbon development goals and objects beyond a one-off project investment by embedding a systemic change in waste management that will adopt to the continuing population and economic growth in Gabon.

- i) **Scaling-up, replication and overall contribution to global low-carbon development:** Although the GHG emissions from the waste sector in Gabon remains little among other Gabonese sectors and global emissions, it is expected to increase due to the country's rapid population growth as mentioned in the section B.1. As a responsible global partner, Gabon has been continuously and activity committing to climate change issues, and this project will support the commitment by reducing the GHG emission with expected amount of 245 tCO₂eq over the operation period of composting plant.
- ii) **Knowledge and learning:** Throughout the implementation process of this project, there will be full of opportunities to develop and promote knowledge among various stakeholders including the citizens, officials of the central and municipal government, civil organizations and the private sector. The knowledge and learning will be expected to range from better waste management skills at household and municipal level, technicality of waste composting, market and commercial strategy for sales of compost and to contributions of waste management to climate change mitigation and better public health. Those lessons will support implementation of similar project in other cities in Gabon and in African countries, which will support replication and scaling-up. Given that women play significant role in meal preparation in household, the project will include gender-responsive extension service on treatment of organic waste at household level.
- iii) **Contribution to the creation of an enabling environment including the regulatory framework and policies:** This project will contribute to create an enabling environment of waste composting though introducing an integrated waste management system that covers promotion of waste sorting and periodical and efficient collection of organic waste in the urban area. The installation of integrated waste management system will be mostly implemented though developing clear and concise policies/standards on waste sorting and collection and though community advocacy campaigns. Those policies and campaigns will lead to cultivate public acceptance and understanding towards a climate-smart waste management in general, hence will benefit other future projects in the sectors. In terms of compost, the project activities will aim to introduce safety regulation for fertilizer in order to ensure the "do no harm" principle and proliferation of compost. Those standards will protect all stakeholders including farmers, venders of compost and consumer of agricultural products, and ensure sustainability of the compost market.
- iv) **Contribution to climate-resilient development pathways consistent with Gabon's climate change adaptation strategies and plans:** Waste management has been identified in both the PSGE and one of the adaptation strategies "National Strategy for the Adaptation of the Gabonese Coastline to the Effects of Climate change (Le Stratégie nationale d'adaptation du littoral gabonais face aux effets des changements climatiques)." Moreover, the national laws also specifically stipulate reduction of waste volume and waste recovery.

Sustainable Development: The following co-benefits are expected to be attained from this project.

- i) **Environmental co-benefits:** In general, composting technology can reduce 50% of waste volume³⁰, thus it will contribute to conservation of forests and marine areas where accommodate of Gabon's rich biodiversity. Furthermore, application of compost will reduce the volume of irrigation water and necessary energy for water pumping in the agriculture sector. In addition, utilization of compost will give fewer negative impacts on soil compared to the utilization of chemical fertilizers.
- ii) **Social co-benefits:** This project will create co-benefits in the areas of public health, employment and food security in Gabon. Waste composting will be expected to reduce the volume of abandoned wastes in urban areas that can be sanitation issue and source of infectious disease such as vector borne disease. In terms of employment, this project can create a new source of employment in waste management sector, especially for the underprivileged and contribute to mitigate poverty. In relation to food security, the application of compost will enable to improve agricultural productivity, hence the Gabon's food security.
- iii) **Economic co-benefits:** The expected economic co-benefit of this project will extend to generation of new job opportunities in the waste management sector, increased market value of agricultural products produced with compost, reduction of water use, market expansion for accessible compost, and improved farmer's income and savings.
- iv) **Gender-sensitive development impact:** As mentioned in the Section B.1, a study showed that the Gabonese girls are most exposed to waterborne diseases followed by the boys. Given this situation, this project can address

³⁰ World Bank (2016). Decision Maker's Guides for Solid Waste Management Technologies.

this public health issue through reduction of waste and improving waste management. Furthermore, this project will put female household members at the center of advocacy campaigns and extension services, which leads to women's empowerment both in household and creation of circular economy derived from waste composting.

Needs of recipients: Gabonese people and municipalities are in urgent need of this project. Given that over 70% of the population live in the coastal urban areas facing climate vulnerability such as coastal flooding, improved waste management is crucial for the country's low-carbon development goal. Both the waste volume and GHG emissions from waste management sector has been increasing due to its rapid population growth and urbanization. Furthermore, the agriculture sector and farmers also need accessible fertilizer to improve their productivity, which lead to stabilize the national food security. The agricultural low productivity is trapped in a vicious circle of low income of farmers and inaccessibility to affordable fertilizer. The proliferation of compost will directly address to the climate impacts (i.e., longer dry seasons and water scarcity) and agricultural low productivity in Gabon.

Country ownership: Waste composting is a target technology prioritized by the Gabonese stakeholders through the technical needs assessment (TNA). The technology and this project are well aligned with the national and sectoral development and climate priorities as detailed in Section B.1. The involved stakeholders ranged from the public sector, private sector, CSOs, and academia. They are and will be involved in designing this concept note and developing a funding proposal, implementation and monitoring of the project to ensure their ownership. In so doing, the TNA committee established in the process of TNA will be a strong focal point.

Efficiency and effectiveness: The amount of co-financing is expected to be 19.5% of the total investment. The detailed economic and financial analyses of this project will be conducted during the funding proposal development. For the analyses, the indicators for the expected rate of return will be applied in order to highlight replicability and scaling-up of this project. Furthermore, the analysis will be designed to identify the most cost-effective integrated waste management system (such as financially optimized waste collection route and frequency).

B.4. Engagement among the NDA, AE, and/or other relevant stakeholders in the country (max ½ page)

TNA committee as a focal point of the project development:

The TNA committee established during the TNA process supported by the GCF and CTCN will be a focal point for the development of this project. The TNA committee is suitable for inclusive project development as it is consisted of diverse stakeholders from the public and private sectors and civil society organizations including the National Climate Council (Conseil National Climat) as the National Designated Authority (NDA) as well as the Gabonese Agency for Standardization (Agence Gabonaise de Normalisation) as the National Designated Entity for the CTCN. The committee will play as the project design team, and it provides guidance and advisory. The TNA committee has been supervising and advising the development of this Concept Note (CN). Once the CN is approved by GCF, the TNA Committee will likely continue to supervise preparation of the funding proposal and feasibility studies as necessary. In the implementation phase, a Project Coordination Committee (PCC) will lead the overall management of the project and will liaise with the AE as well as the TNA committee periodically.

C. Indicative Financing/Cost Information (max. 3 pages)

C.1. Financing by components (max ½ page)

The cost of the project is estimated to reach approximately USD 48.8 million. GCF financing request is estimated to be 39.24 million, which will be leveraged mainly for activities that are related to technical and institutional capacity building, as well as for installing and operating the waste composting plant and composting activities. Co-financing estimates will be subject to further discussions with the stakeholders during project design.

Component/Output	Indicative cost (USD)	GCF financing		Co-financing		
		Amount (USD)	Financial Instrument	Amount (USD)	Financial Instrument	Name of Institutions
Component 1: Strengthened enabling environment for integrated waste management and waste composting	1,750,000	1,250,000	Grant	500,000	Grant	TBD
Component 2: Improved waste management practices through the installation and operation of waste composting plant,	41,500,000	33,400,000	Grant	8,100,000	Grant Loan/Equity	TBD

contributing to emissions reduction						
Component 3: Identified market opportunities and enhanced use of compost products to enhance livelihoods	5,550,000	4,590,000	Grant	960,000	Grant Loan/Equity	TBD
Indicative total cost (USD)	48,800,000	39,240,000		9,560,000		

C.2. Justification of GCF funding request (max. 1 page)

The components and activities foreseen under this project cannot be financed by the host government and private sector alone. Gabon has been experiencing decelerating growth since 2014, with severe shortage in cashflow.³¹ This has limited the Gabonese government's ability in providing significant investment towards climate-related projects as well as projects related to waste management. The situation has been further exacerbated by COVID-19 pandemic, resulting a decrease in public finance and requiring the Gabonese government to conduct an extensive fiscal adjustment and limit public investments.³² Given the fact that public debt has also increased sharply in recent years, sovereign debt is also not feasible for the project.³³ To avoid constraints in leveraging debt from the public sector, the preferred structure will be based on Public Private Partnership (PPP) agreement wherein a private sector contractor would operate and maintain the waste composting plant as a project company. In this case, the project company will have to find majority of its financing in debt while it is unlikely that bond issuance enables the project company to receive the funding required for the project at an acceptable rate. It is preferable, therefore, for the project company to request a long tenor for the project (25 to 30 years) to avoid refinancing. Since commercial banks are not able to provide such tenor for a project in Gabon, the use of GCF funding and the level of concessionality is justified in this project.

Moreover, many of the activities identified for this project involve technical and institutional capacity building, as well as awareness building activities. In this regard, there are no potential funding sources for these activities in the country. Furthermore, private investment is in decline, with limited private sector participation in the waste sector overall in Gabon. GCF grant financing will de-risk investments and help mobilize private investment at scale in the waste management sector. In the long-term, this can lead to sustained financing from private sources and consequently a sustainable business model centered around the waste composting plant.

Thus, GCF involvement is necessary in catalyzing sustainable waste management practices in Gabon. There are no alternative sources to finance the waste composting plant, as well as to finance capacity building and awareness raising activities due to the financial climate in Gabon. In particular, the need to create an enabling environment and lack of private sector participation in the waste management sector, and the scale of financing required for the waste composting plant and the tenor required, emphasize the importance of accessing GCF grant financing.

C.3. Sustainability and replicability of the project (exit strategy) (max. 1 page)

Sustainability: The project's sustainability and exit strategy are ensured and rooted in the key elements of the project's design and implementation. Long-term sustainability beyond the project implementation period is assured through the following areas:

- i. **Technical:** Through the capacity building and raising awareness activities, the program aims to enhance the resources and knowledge of all actors along the value chain of waste management. The program will ensure that waste management practices are promoted in Gabon's national and sectoral policies, so that waste management practices are integrated within relevant institutions and society. Technical expertise towards institutions will be provided by both national and international experts, and technical information and knowledge will later be summarized in a written document, which can be shared for a broader audience.
- ii. **Institutional:** As part of the project's activities, a coordination mechanism will be formed to not only ensure coordination among the stakeholders, but also to ensure the sustainability of integrated waste management practices in Gabon. Along with this, institutional capacity building of relevant stakeholders will promote self-dependence and enable further project development in the field of waste management.

³¹ International Monetary Fund 2020. Gabon – Technical Assessment Report

³² BTI 2022. Gabon Country Report 2022.

³³ International Monetary Fund 2020. Gabon – Technical Assessment Report

- iii. **Financial and economic:** Financial and economic sustainability is assured by diversifying the revenue streams of the waste composting operation. By implementing component 3, there will be emphasis on identifying additional revenue generation activities such as sales of recycles and waste collection, rather than solely relying on revenue generation through compost product sales and tipping fees, which are subject to market fluctuations. Collaboration with potential buyers such as farmers and private sector actors is also encouraged in this project, which can lead to securing sustainable revenue for the waste composting plant.
- iv. **Behavioral change:** Implementing the proposed activities will lead to institutional and behavioral change to adopt integrated waste management practices, which will assure that wastes are managed sustainably to protect the environment and human health and promote the efficient use of resources.

Replicability and exit strategy

A majority of African countries, not only limited to Gabon, are experiencing similar challenges in waste management. Therefore, the proposed project can be considered as reference and role model for other countries to implement integrated waste management practices and deploy waste composting plants in their respective countries.

D. Supporting documents submitted (OPTIONAL)

- Map indicating the location of the project/programme
- Diagram of the theory of change
- Economic and financial model with key assumptions and potential stressed scenarios
- Pre-feasibility study
- Evaluation report of previous project
- Results of environmental and social risk screening

Self-awareness check boxes

Are you aware that the full Funding Proposal and Annexes will require these documents? Yes No

- Feasibility Study
- Environmental and social impact assessment or environmental and social management framework
- Stakeholder consultations at national and project level implementation including with indigenous people if relevant
- Gender assessment and action plan
- Operations and maintenance plan if relevant
- Loan or grant operation manual as appropriate
- Co-financing commitment letters

Are you aware that a funding proposal from an accredited entity without a signed AMA will be reviewed but not sent to the Board for consideration? Yes No