

## Terms of Reference for Potential Study Agreement

Please submit your proposal before **November 10** by sending it to [project@catalyticfinance.org](mailto:project@catalyticfinance.org)

This document serves to provide an overview of the underlying project relevant to the Subnational Climate Fund (SCF), context on data availability and goals of the mandate, as well as an estimated scope of work requested from the consultant. Final details of the mandate should be covered by the subsequent proposal submitted by the consultant.

### **1. The Subnational Climate Fund**

The SCF is a blended finance impact fund formed to pursue attractive risk-adjusted returns for private investors while generating measurable and certified environmental and social impacts. The Fund is focused exclusively on pursuing investments in mid-size climate infrastructure with nature-based solutions in various developing countries across Latin America and the Caribbean, Africa, the Mediterranean, and Asia. The Fund is managed by Pegasus Capital Advisors, a commercial Private Equity impact fund manager and further benefits from a separate, grant-funded Technical Assistance facility managed by The International Union for the Conservation of Nature (IUCN) and implemented by R20, IUCN, and Gold Standard.

### **2. Context of the Potential Study Agreement**

The SCF is considering a potential investment opportunity relating to the production of insect protein in Rwanda, including a commercial rearing and processing facility for Black Soldier Fly (BSF). The SCF's Technical Assistance facility has approved funding to conduct a waste assessment and characterization study in support of this project to characterise, map and design the supply chains across the various sources of waste feedstock in Rwanda.

Reputable sources in Kigali, Rwanda estimate between 500-800 tons of municipal solid waste (MSW) is generated every day. While qualitatively and anecdotally accurate, a comprehensive, and up-to-date household survey statistically representative across different settlement types, different seasons and times of the year is required to verify this data. With financial support from the government of Luxemborg, Rwanda is the early stages of mapping, analysing and overhauling the Kigali waste management system. Unfortunately, because of the nascent status of this project, validated quantitative data on the amount of MSW is unavailable.

Based on the presently available data, accounting for population growth and changing economic profiles, Kigali municipal officials estimate it is possible that waste generation rates in Rwanda could increase by 63% over the next ten years. Increasing from approximately 800 tons being generated per day to approximately 1,300 tons per day by 2030.

Limited data exists on municipal waste characterization, or even the proportion of waste that is organic versus inorganic. The few available studies have largely relied on one-off 'dipstick' studies that do not account for the source of waste – municipal or commercial -, and seasonality. Estimates based on global studies – coupled with these dipstick studies – indicate that between 60-80 percent of waste generated in Rwanda urban areas is organic in nature, and that organic waste may make up more than 90% of the waste generated in rural areas. It is particularly important that the waste is captured before comingling in the landfill. Working together with the waste management consultants, as they

determine the viability of Kigali sorting and collection, the project developer will assess and confirm the quantifiable amount of organic waste available.

In addition to the municipal waste. The project developer has explored collection of organic waste from the daily farmers markets. This totally organic waste offers a valuable BSF feedstock. The questions of total tonnage available and regularity of waste flow remain promising yet unconfirmed. Finally, the project developer is exploring commercial dairy milk waste as a viable component for the BSF feedstock. Some 70% of Rwanda rural households maintain at least one cow, the country operates some 130 dairy collection centers with only about 10 processing facilities. The immediate opportunity to capture otherwise wasted milk appears quite promising from initial surveys. The combination of municipal waste, market waste and dairy waste present a potentially viable source of feedstock. The permutations of supply will vary over time however developing the best initial feed formulations based on present availability is critical. The formulations may vary with seasonality, and availability.

### **3. Scope of Work for a Feasibility Study**

The consultant should have demonstrated experience with (a) waste management projects in Africa, preferably in Rwanda and (b) engagement with Government authorities in undertaking such projects. The consultant is expected to carry out the following tasks:

1. Map the supply chains – household, commercial and markets – identifying the amount, type, characterization, and disposal of the waste generated, particularly food waste with a view of BSF requirements.
2. Determine seasonality, variability and availability of food waste at three sites – household, market and commercial – over a six-month period through (minimum) monthly lab sample analysis of the nutritional composition.
3. Revamp the supply chains relevant to inform the delivery to the BSF facility – directly or through the city landfill - to maximize the volume for the feedstock.
4. In support, determine the requirement, incentives and cost of financing of waste separation and from the three site types.

Please provide a breakdown of estimated costs for each of these four tasks.

### **4. Deliverables**

A final report in English (Word Format) using the SCF's template for TA studies, including the following elements:

- Executive Summary
- A table of acronyms
- Analytical Part
- Conclusions
- Bibliography

### **5. Indicative Timeline**

Work is expected to commence immediately after the consultant is appointed. The work is expected to be completed within 6 months after signing the service contract. The delivery of services and reporting timeframes are anticipated to be as follows:

Feasibility Study	
Activity / Deliverable	Indicative timeline
Kick-off meeting  Establish communication channels for initial information exchanges, confirm the project schedule and TORs.  Throughout the study, it is our practice to schedule regular working group call with all relevant stakeholders involved. Frequency to be determined.	Week 1 after signature of service agreement
Draft report 1 provided to Catalytic.	Month 4
Final report 1 provided to Catalytic.	Month 6

## 6. Form of Proposal & Requirements

Please prepare a brief proposal for the performance of this work, including the scope of work, project team and qualifications, and estimated costs.

- 1) **Scope of Work:** The scope of work should include a description of the specific activities that will be performed in order to accomplish the required tasks identified in Section 3. This should include any proposed site visits/reconnaissance, documents to be reviewed, interviews, etc. If the Consultant feels that additional tasks or components within a required task are suggested or warranted, these should be stated and delineated as “Optional Tasks”.
- 2) **Project team and qualifications:**  
This should include the name of the principal staff members and any sub-contractors, and a brief description of their role within the project team. Qualifications of staff should include relevant technical capabilities, full CVs, specific previous experience similar to this assignment, specific in-country experience and knowledge.
- 3) **Estimated costs:**  
A total time and expenses cost estimate (not to be exceeded), in US Dollars, must be provided for the required scope of work. A breakdown of the estimated costs by task must also be presented in tabular format and should include Direct Labour Costs (number of hours or days per staff and their associated unit costs) and Indirect Labour Costs (i.e. travel, sub-contractors, etc.). Please note that R20 is exempt from VAT. Your financial proposal should therefore not include VAT. If field visits are necessary, travel costs will be covered by the SCF separately from the consultancy fee.
- 4) **Conflicts of interest:**  
As part of the proposal, the Consultant shall also confirm that they do not have a conflict of interest and that they are in a position to provide an adequate, accurate and objective review.

## 7. Submission

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