Request for Proposal

Study on Biochar Carbon Insetting Potential

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Timeline:

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Deadline Proposals: 30th of May 2025
Work Start Date: 16th of June 2025
Completion Deadline: 29th August 2025

1. Introduction

Context

ETG | Beyond Beans is seeking proposals from qualified consultants or organisations to conduct a detailed carbon study on the potential of biochar value chain decarbonisation ("insetting") within the cocoa value chain in West Africa, specifically within cocoa agroforestry systems. The study is part of a project on biochar application in Cocoa Agroforestry systems, and this project aligns with ETG | Beyond Beans broader goal of developing scalable and sustainable business cases for biochar-based emission reduction and carbon capture.

The Intergovernmental Panel on Climate Change (IPCC) has identified biochar as one of the most effective carbon dioxide removal (CDR) methods applicable in agriculture for long-term carbon storage in soils (AR6, WGIII, SPM, section D1.6). Recognised as a negative emission technology (NET), biochar can sequester up to three times its weight in carbon dioxide offering a high-impact climate mitigation solution. Its integration into agricultural systems not only enhances soil health but also provides a viable pathway for reducing Scope 3 emissions within corporate value chains.

Beyond the commonly practised issuance of carbon removal credits from biochar production, biochar insetting also presents an opportunity for companies to embed carbon sequestration directly within their supply chains, strengthening sustainability strategies while delivering tangible climate benefits and supporting the delivery of their climate targets.

The Project

In partnership with BioYam, an Ivorian compost manufacturer and supported by IDH, ETG | Beyond Beans is currently exploring the application of biochar in cocoa agroforestry settings. The project's interventions combine cocoa cultivation with strategic tree planting and biochar production and application by cocoa smallholders. The project seeks to evaluate biochar's dual role in enhancing both soil health and value chain decarbonisation. Specifically, it aims to complement the above-ground carbon sequestration achieved through agroforestry by fostering below-ground carbon capture through biochar-enriched compost application.

The Study

Through this study, ETG | Beyond Beans aims to quantify the Greenhouse Gas (GHG) impacts of biochar production and applications. It should lead to an increased understanding of the decarbonisation potential of biochar interventions while developing robust pathways for carbon monetisation and determining the necessary data collection methodologies for measurement, reporting, and verification (MRV). It will also help identify potential gaps in current GHG emissions factors and decarbonisation data associated with biochar production and applications, laying the groundwork for future carbon market participation through insetting.

With biochar production and applications still in the early stages of development, and the potential integration into cocoa farming systems not being thoroughly studied, this project will assist ETG | Beyond Beans in refining the interventions, assessing their environmental and financial impact, and evaluating their scalability across West Africa's cocoa-growing regions. The outcomes of this study are intended to guide future decisions on biochar production and applications within the cocoa sector, advancing efforts towards sustainable, climate-resilient farming practices while offering new opportunities for farmers to engage in carbon markets.

2. Objectives of the Assignment

This study should:

1. Quantify the decarbonisation potential of ETG | Beyond Beans' smallholder artisanal biochar intervention within cocoa agroforestry systems throughout the full value chain from biochar production to application by assessing its impact on greenhouse gas emissions and estimation emission factors (EFs)
2. Identify and assess primary and secondary data requirements, including data gaps and collection strategies, to support accurate carbon footprint calculations, emissions reduction assessments, and MRV requirements for insetting pathway(s).
3. Evaluate high-integrity carbon monetisation pathways with a focus on insetting but also assessing as a project option an alternative pathway i.e. the use of voluntary carbon credits to determine the most effective approach for ETG | Beyond Beans' cocoa supply chain.

3. Scope of Work

Part 1: Supply Chain and Intervention Mapping

1. Biochar Intervention Mapping:

Identify and map out the potential GHG impacts across the full biochar value chain from production (Kon-tiki kilns or soil pits) to application in cocoa farms, including biomass sourcing (Cocoa Pod Husk and woody pruning waste from the cocoa farm), transport, production, co-composting (before application biochar is mixed with either compost, manure or NPK-fertiliser), and biochar end-use (application during regular fertilisation moments, applied in dripline at 10cm deep, at roots of cocoa trees).

- ETG | Beyond Beans and the consultant are expected to jointly identify three scenarios of different combinations of production method, biomass source and application method to compare and quantify (i.e., 3 biochar production and application value chains).

- We will expect the consultancy to identify key technical challenges associated with biochar GHG impact scientific knowledge/GHG accounting & reporting/others, and to present the latest marketplace views/consensus/proposed approach/solution. Amongst others, please find below some examples of technical topics that need to be clarified by the consultancy:
  - Role of Cocoa Pod Husk (CPH) and pruning waste emissions in baseline footprint, and implications if used as biomass for biochar production (i.e. allocation of GHG footprinting with several farm products and implications for the farm's cocoa beans GHG footprint).
  - Comparison of GHG footprint if cocoa pods are left to rot on a pile (current main practice) vs. crushed whilst fresh and used as a mulch on the farm's soil.
  - Clarify the different soil carbon sequestration sinks associated with biomass, their GHG Emission Factor values and how to account for them in alignment with the GHG Protocol and guidelines.
  - Approach to accounting & reporting the biochar long-term sequestration of biomass carbon in alignment with the GHG Protocol and guidelines.
  - Approach to accounting & reporting the biochar's GHG impact if the biochar is not integrated into the farm's soil but left on a pile on top of the farm's soil or sold and used outside of the cocoa farming system

2. GHG Emission Factor (EF) Estimation:

Estimate the GHG EF for biochar production and application for the three selected value chains scenarios using available data (e.g., public sources, Life-Cycle Analysis (LCA) databases, ETG | Beyond Beans' internal data) and in alignment with GHG protocol and its guidance, the SBTi standards and FLAG guidelines, the recently published Quantis Cocoa sector carbon footprinting guidance, other relevant standards and guidelines.

- For each of the three biochar value chain scenarios, the consultant should estimate the overall EF for biochar application by a cocoa farmer and also present the breakdown of the EF per value chain activities and types of GHG.
- For each of the three biochar value chain scenarios, identify gaps in secondary data available for EF estimation, assess the primary data ETG | Beyond Beans already has available, and advise ETG | Beyond Beans at a high level on how to fill any remaining data gaps and how this data can be used to improve the estimated EFs.

Part 1 Deliverables:

- Biochar value chains mapping report for the three selected scenarios (including identification of all GHG impacts and clarification of key technical aspects)
- EF estimation for the three scenarios (Total EF and associated breakdown by value chain stages and GHGs; Excel (.xls) based working – to be used, adapted and worked on by ETG | Beyond Beans)
- Advisory report: on EF analysis, data gaps and recommendations for primary data collection

Part 2: Carbon Monetisation Potential

1. Comparative Analysis of Carbon Monetisation Pathways

Assess the feasibility, requirements, and business case potential for two carbon insetting monetisation pathways to provide ETG | Beyond Beans with a structured decision-making framework to determine the potential and most effective carbon monetisation strategy for biochar production and application by smallholders within the cocoa supply chain.

1. Decarbonising the carbon footprint of cocoa beans – following GHG Protocol/SBTi/FLAG.
2. Selling verified insets following all the currently relevant recognised insetting platforms (the SustainCert Vivid Platform, Gold Standard AIM, Proba, Verra Scope 3 Standard Program and any other credible schemes).

3. OPTIONAL: Selling of carbon credits via voluntary carbon markets – specifically using the following voluntary carbon market standard: Global Artisan C-sink certification from Carbon Standards International. This pathway is not the focus of this study, and the consultant is only to include this in the analysis if relevant expertise is available within the organisation.

For each monetisation pathway, the consultant must outline:

- **Data Requirements:** Baseline emissions, intervention impact measurement, primary data needs (e.g., biochar properties, soil carbon sequestration potential, footprint allocation), data quality requirements etc.
- **MRV Requirements:** Auditing/certification processes, reporting obligations, and verification standards.
- **Transaction Cost Analysis:** Auditing/certification costs, transaction fees, administrative burden.
- **Key Trade-offs & Risks:** Double counting risks, permanence concerns, regulatory developments, and compatibility with supply chain sustainability goals.

We also would like the consultancy to assist us in better understanding the current and future interest of the marketplace in the three monetisation pathways, i.e. understanding better the business case potential of the pathways (current & future market demand, carbon revenue potential per tonne of biochar/cocoa, scalability, and long-term viability). As a first step, we would like the consultancy to undertake such business case analysis based on existing available data and include their analysis in their project report.

As a second step, IDH and ETG | Beyond Beans will directly engage with selected cocoa bean buyers and for this are asking the consultancy to help them prepare for undertaking such engagement. The consultancy will develop two key documents:

1. A discussion presentation to facilitate the company interview.
2. An interview protocol with a set of key questions to assess the following topics:
   - Willingness to pay for verified insets.
   - Preferences between insetting vs. carbon credit purchasing.
   - Price sensitivity and volume potential.
   - Requirements for traceability, co-benefits (e.g. soil health, farmer livelihoods), and certification credibility.

Part 2 Deliverables:

- Insetting monetisation pathways comparative analysis report (including feasibility, detailed requirements, transaction cost analysis, and high-level market demand/business case analysis for each monetisation pathway).
- Optional add on to comparative analysis report: carbon offsetting (including feasibility, and detailed requirements
- Support documents to assist IDH and ETG | Beyond Beans engage with the cocoa sector to explore in more detail the market demand (i.e. discussion presentation in PowerPoint and interview protocol with key questions in an MS Word file)
- Decision making framework and recommendations for ETG | Beyond Beans on most viable strategy and actionable steps for implementation.

4. Consultant Qualifications

The ideal consultant or organisation should demonstrate:
- Expertise in biochar production, applications, and impacts on farming systems.
- Experience in cocoa farming and agroforestry systems.
- Familiarity with West African agricultural contexts, particularly Côte d'Ivoire.
- Experience in LCA/carbon footprinting.
- Proven knowledge of GHG Protocol and SBTi FLAG methodologies.
- Proven knowledge of various carbon monetisation mechanisms including insetting/value chain decarbonisation/voluntary carbon credit.

5. Application Process

1. ETG is publishing the tender and is inviting service providers to submit a proposal based on this RfP.
2. Evaluation of the proposals by an Evaluation Committee with key experts of ETG | Beyond Beans and IDH. The Evaluation Committee will evaluate and rank the proposals based on clarity, quality, completeness, price completeness and on consultant qualifications and relevant experience.
3. If deemed necessary, the service providers of the best proposals can be invited to make a pitch for the Evaluation Committee to aide a final decision
4. Decision on the selection of the service provider.
5. Inception meeting with the selected service provider.

6. Budget Range

The indicative budget for this assignment is up to EUR 45,000 including all applicable taxes. VAT does not need to be included in the offer if it can be reverse charged (i.e., shifted to the recipient, ETG | Beyond Beans) or if the consultant invoices through a Dutch-registered entity. ETG | Beyond Beans welcomes competitive offers demonstrating excellent value for money and encourages applicants to propose cost-efficient approaches, including modular options for add-ons where relevant.

7. Proposal Submission Requirements

Proposals should include the following:

1. Technical Approach:
- Methodology for achieving the study objectives.
- Proposed tools and frameworks for EF estimation, MRV, and monetisation pathways analysis.

2. Team Qualifications:
- Relevant experience and expertise of the consultancy and key team members.

3. Timeline and Work Plan:
- Detailed timeline and milestones for each deliverable.

4. Budget:
- Comprehensive budget breakdown, including cost types, unit costs and units budgeted and clearly identifiable cost of additional modules and options.

5. References:
- Examples of similar projects undertaken.

8. Evaluation Criteria

Proposals will be evaluated based on the following criteria:

- Technical expertise and relevance to the project scope.
- Methodological rigour and feasibility.
- Cost-effectiveness.
- Demonstrated experience with biochar production and application, cocoa farming, GHG protocols/ SBTi standards, and carbon insetting/offsetting markets.
- Understanding of West African contexts.

9. Contact Information

For questions or clarifications regarding this RfP, please contact:
Remi van Balen | Programme Manager Agroforestry & Environment
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The application must include:

1. A technical proposal outlining the proposed evaluation methodology (maximum 15 pages, excluding table of contents and cover page).
2. A detailed budget with a breakdown of costs.
3. CV(s) (maximum 2 pages) of the consultant or team members.
4. Evidence of previous evaluation work conducted, including reports or references.

Interested consultants or service providers should submit their applications to remi.vanbalen@beyondbeans.org with the subject title 'Proposal: Study on Biochar Carbon Insetting Potential'.

We look forward to receiving your proposal by the 30th of May 2025. Together, we aim to pave the way for sustainable carbon capture solutions in the cocoa value chain.

About ETG | Beyond Beans

Beyond Beans is the sustainability foundation of ETG, one of the world's leading traders and processors of agricultural commodities.

ETG | Beyond Beans is dedicated to developing and implementing projects across cocoa, coffee and cashew supply chains, through impact-driven sustainability programmes focused on making cultivation more sustainable and climate-resilient, protecting biodiversity, and improving the livelihoods of farmers and their families.

ETG | Beyond Beans' multidisciplinary team of more than 500 specialists and field staff in Benin, Cameroon, Côte d'Ivoire, Ecuador, Ghana, Nigeria, Togo, and Uganda are experts in topics such as climate-smart agroforestry, community development and promoting gender equity.