REQUEST FOR PROPOSALS

DEVELOPMENT OF A VCS TOOL FOR SOIL SAMPLING, PROCESSING, AND ANALYSIS TO DETERMINE SOIL ORGANIC CARBON STOCK CHANGES

March 2022

BACKGROUND

Verra's VCS Program -- the world's leading voluntary greenhouse gas (GHG) crediting program -- has over 200 registered projects in the Agriculture, Forestry and Other Land Use (AFOLU) sector, estimated to generate over 89 million tonnes of CO2e in emission reductions and removals annually. While still in its nascency, GHG projects based on soil organic carbon (SOC) stock enhancement and agricultural emission reductions (e.g., through improved agricultural land management (ALM)) are rising exponentially. To date, six projects using the recently released VM0042 Methodology for Improved Agricultural Land Management have started the registration process, and more are expected soon. Other VCS ALM methodologies that include the SOC pool have limited project development activity.

A key component of these ALM methodologies is the procedures used to estimate SOC stock changes when SOC is directly measured, from land stratification to soil sampling to laboratory analyses. SOC stocks are unevenly distributed across landscapes and depend on mineralogy, topography, climatic conditions, and land use, among others. Therefore, effective strategies for direct measurement of SOC should capture this variability to reduce uncertainties and allow for science-based estimations of SOC stock changes attributable to project interventions. Furthermore, the physical sampling of soils and subsequent laboratory analyses, require adherence to established procedures linked to the selected sampling and analytical approaches.

As demand increases for SOC projects to generate carbon credits, it is crucial to standardize these procedures used by projects. Standardization should quantify and reduce uncertainties to ensure the estimated SOC stock changes are real without compromising the ability to develop and implement projects globally.

OBJECTIVE & NEED

Existing VCS methodologies that allow for quantification of SOC stock changes differ in their level of detail regarding soil sampling and analytical procedures. In some methodologies, procedures are mostly left to the consideration of project proponents based on capacity, technology availability and appropriateness to the characteristics of the project. In others, detailed stratification, sampling, and SOC stock estimation procedures are mandated. This lack of standardization can lead to different outcomes even when projects have the same goal of quantifying SOC stock changes and associated uncertainties. However, estimates generated must be demonstrated to be unbiased and derived from representative sampling and employing quality assurance/quality control (QA/QC) procedures to ensure accuracy is indispensable.

The main procedures for direct measurement of SOC should cover:

1. Sampling **design**, including **stratification** of the project area into subsets (i.e., strata) with similar characteristics that influence SOC stocks (e.g., soil types, topography, land use and land-use history);
2. **Collection** of samples covering depth, bulk density determination, compositing, equipment, storage, and transportation, considering the VCS Program requirement to report SOC stock changes on an equivalent soil mass (ESM) basis;
3. Sample **processing** covering drying, homogenizing, sieving, and removal/quantification of roots and stones; and
4. Common **chemical laboratory analyses** for SOC estimation (e.g., dry combustion, LOI, Walkley-Black) and their requirements.

To standardize procedures for direct measurement of SOC stocks and to harmonize discrepancies in existing methodologies, Verra is seeking a consultant to develop a VCS tool that provides procedures on:

1. **Sampling design (including land stratification strategies and the use of remote sensing),**
2. **Soil sample collection and handling,**
3. **Sample processing, and**
4. **Laboratory analyses**

These procedures will be applicable when using any ALM methodology that quantifies SOC stocks in the VCS Program.

SCOPE OF WORK AND DELIVERABLES

To develop a robust and broadly applicable VCS tool providing guidance on how to sample and analyze SOC stocks in ALM projects within the VCS Program, **Verra seeks to contract a short-term**

consultant to lead an 8-month tool development process. The consultant's tasks will be as follows:

1. **Conduct a review of SOC sampling and analysis requirements and guidance in existing VCS methodologies and relevant protocols from peer GHG crediting programs, academia and/or government sources.** This should include a review of VCS methodologies (e.g., VM0042, VM0021, VM0017, VM0026, VM0032) and modules (VMD0018 and VMD0021) targeting SOC stock increases, and protocols from other standards and government sources (e.g., section 2.5.1 Measurement-based Tier 3 inventories, Chapter 2, Volume 4 - AFOLU of the 2019 Refinement to the 2006 IPCC Guidelines for National GHG Inventories, Soil Enrichment Protocol from CAR, SOC Framework Methodology from Gold Standard, ISO 13.080.05 standards related to sampling, Sampling Guidance from ERF Australia, SOC benchmarking and monitoring Approach from the Ministry for Primary Industries of New Zealand, GSOC MRV Protocol from UN-FAO, Soil Survey Manual from USDA, etc.). VCS modules VMD0018 *Methods to Determine Stratification* and VMD0021 *Estimation of stocks in the soil carbon pool* represent particularly valuable references for the tool. Further supporting scientific literature can be included.

   Deliverable 1: A presentation to Verra describing the outcomes of the methodology/tool review with accompanying documentation (e.g., comparative spreadsheet).

2. **Consult key stakeholders** to identify challenges and opportunities as well as emerging MRV approaches and other technologies that could be leveraged in ALM projects to make sampling strategies to detect SOC stock changes over time more efficient and robust. Consulted stakeholders should include active and future project developers, soil scientists, and NGOs. Consultant will work with Verra to select 6-9 stakeholders (2-3 from each stakeholder type) as part of an ad-hoc expert group.

   Deliverable 2: Summary of stakeholder consultation, including key findings and recommendations.

3. **Prepare and submit full draft VCS tool.** Following steps 1 and 2, the consultant will develop and submit a full tool using the template. The consultant will be expected to iterate with Verra throughout this step to refine the approach by sharing interim versions of the tool and checking in with Verra on a biweekly basis. Upon formal submission of the full draft, Verra will coordinate a 30-day public consultation on the proposed tool which may include targeted feedback from the ad hoc expert group.

   Deliverable 3: First full draft of the tool.

4. **Review and respond to public comments and produce an updated draft of the tool**. The consultant should respond to each issue raised during the consultation period,

using the inputs obtained from the public and expert consultations, as well as comments received from Verra, to produce a final draft of the tool.

Deliverable 4: Summary of comments and responses

Deliverable 5: Updated draft of the tool

5. **Manage the progression of the tool through a validation/verification body (VVB) assessment**. Following the public consultation, the proposed tool will be assessed by an independent VVB selected and contracted by Verra who will review the tool and produce an assessment report with findings. The consultant will produce a revised version of the tool addressing all the findings in the assessment report. The VVB will review this version to ensure that the modifications made have not produced any non-conformances with the VCS rules. The consultant should revise the tool to address any further issues found by the VVB and produce a final version for publication in the VCS program.

   Deliverable 6: Final version of the tool

MILESTONES & TIMELINE

The duration of this consultancy will be 8 months (June 2022 through January 2023). Following is an indicative timeline for key milestones and deliverables:

Milestone	Deliverable	Indicative Timeline
Kick-off meeting with Verra	N/A	Early June
Review of existing VCS methodologies and protocols from academia and government sources; stakeholder interviews	Deliverable 1: Presentation to Verra with documentation Deliverable 2: Summary of stakeholder consultation, including key findings and recommendations.	Late July
Iterate with Verra to prepare and submit full draft tool	Deliverable 3: First full draft of the tool	August – September

Respond to public comments received during the Verra-coordinated public consultation and produce updated draft tool	Deliverable 4: Summary of comments and responses Deliverable 5: Updated draft of the tool	November – December
VVB assessment and final tool	Deliverable 6: Final version of the tool	Late January

SKILLS & QUALIFICATIONS

The consultant should have:

- Applied experience with, or proven understanding of, soil science with a focus on agricultural systems, including croplands, grasslands, and mixed land-use systems.
- Significant experience with the challenges associated with standardization of soil sampling and analysis, along with its implications for statistical analyses, and determination of SOC stock changes over time.
- Applied experience with, or proven understanding of, GHG crediting programs including agroforestry, agricultural and/or forestry offsetting methodologies and project development.
- Proven track record executing consulting projects with high-quality outputs in allotted time frames.

To meet these diverse skills and qualifications, proposals including multiple entities are encouraged (i.e., from a team comprised of two or more entities).

RESPONSES TO RFP

Respondents are requested to submit the following as part of their proposals:

- **High-level technical proposal (not to exceed 4 pages)** including at minimum 1) description of the proposed approach for the scope of work and deliverables and 2) summary of qualifications and relevant past work of consultant or consulting team. Applicants are encouraged to describe any novel ideas and added value propositions that they feel would enhance the scope of work requirements.
- **Cost proposal/budget not to exceed USD 50,000** including total estimated costs based on a daily or hourly rate.
- **Description of how the consultant would avoid any potential conflict of interest** in undertaking the described scope of work.
- **Separately appended resumes/CVs (not to exceed 2 pages each).**

Respondents should feel free to submit clarifying questions to valcantara@verra.org on any of the above information.

All application materials submitted to Verra will be kept confidential **and must be submitted via email to valcantara@verra.org by 5 p.m. Eastern Time on Friday, 29 April 2022**. Verra will set up interviews of short-listed candidates and/or request clarifying information by mid-May with the aim to finalize selection by late May.

LEGAL NATURE OF RFP

This RFP is an invitation for proposals and Verra is under no legal obligation to accept any proposal nor proceed with the RFP. Verra reserves the right to amend the requirements at any time.