



Standards for a
Sustainable Future

VCS Forest Carbon Technology Working Group

Terms of Reference

January 19, 2024

BACKGROUND

Verra supports and scales climate action and sustainable development with standards programs that credibly, transparently, and robustly assess environmental and social impacts and that also enable funding for sustaining and scaling up projects that verifiably deliver these benefits.

To scale the impact of our current and future forest carbon methodologies, Verra is establishing a new Forest Carbon Technology Working Group (FC Tech WG). The objective of the FC Tech WG is to facilitate the development of a framework for the approved use and governance of digital measurement, reporting, and verification (DMRV) technology use at all levels of the Verified Carbon Standard (VCS) Program.

DMRV technology commonly utilizes artificial intelligence and machine learning algorithms to digitize the measurement of landscape functions. In the context of forest carbon projects, these approaches are well regarded as the highest-grade and most scalable mechanisms for the following:

- Accurately estimating carbon stocks and greenhouse gas (GHG) flux at unsampled locations
- Setting and certifying the accuracy of crediting baselines
- Providing robust and ongoing verification of additionality
- Incentivizing continuous improvement in accuracy and integrity at a project level
- Streamlining and digitizing project design, administration, and credit issuance processes
- Lowering the overall time and cost of project development and credit issuance

Beyond the context of forest carbon, DMRV technology enhances the overall quality and accessibility of the voluntary carbon market through the end-to-end digitization of carbon credits. However, these emerging innovative technologies are currently under-governed by the *VCS Standard, v4.5*, and as a result, the benefits of digital measurement technologies cannot be fully realized until DMRV governance principles and protocols have been formally integrated into the VCS Program.

Key barriers to adoption:

- Emergence of novel and high-grade measurement and monitoring technologies that can reduce uncertainty in project emission reduction and removal statements and that are currently operating outside of traditional sampling frameworks (e.g., multi-scale Light Detection and Ranging [LiDAR], eddy covariance, active remote sensing)
- Lack of standardized policies and scalable auditing procedures to govern aspects like quality assurance and control procedures, model bias and uncertainty, model validation, predictive accuracy, dispute resolution, data collection and chain of custody, storage, ownership, privacy, and protection
- Lack of transparency and trust due to the use of proprietary data and non-parametric models
- Uncertainty around market continuity and how existing projects and validation/verification bodies (VVBs) will adapt to updated and highly digitized GHG accounting frameworks
- Uncertainty around the overall cost burden of adoption (e.g., unknown auditing costs related to the use of remote measurement technologies throughout the project lifecycle)
- Lack of approved tools, modules, or methodology appendices that enable project proponents to select, incorporate, and validate a range of appropriate DMRV technologies

PURPOSE

The FC Tech WG will provide technical input to guide the development of a conceptual framework for the approved use and governance of new forest carbon measurement DMRV technologies. This group will also provide key insights to support the incorporation of new DMRV technologies into emerging forest carbon methodologies.

The FC Tech WG will also provide insights into the needs of a broad range of stakeholders, contribute expert recommendations, and respond to ideas and suggestions presented by Verra about updates to the VCS Program.

The framework consultation provided by the FC Tech WG will be separate from any existing workstreams undertaken by the DMRV Working Group. For clarity, the FC Tech WG will not provide program-level recommendations on digital project registration processes or digital platform integrations with the Verra Registry.

OBJECTIVES

The FC Tech WG will work with Verra to accomplish the following mutual objectives:

- Gather the latest information and consensus on current and forthcoming innovations for the measurement and monitoring of VCS forest carbon projects
- Raise and provide input on issues related to novel measurement technologies and DMRV integration for new and existing VCS methodologies and tools (e.g., guidance on the use of direct above-ground biomass measurement, project and methodology-level true-up mechanisms, forest carbon methodology updates)
- Increase the frequency and depth of engagement with DMRV service providers to ensure emerging technologies are usable and conformant with VCS Program elements
- Identify any gaps in the VCS Program that prevent the utilization of advanced technologies

The FC Tech WG will produce the following deliverable:

- A framework that sets out a clear road map for Verra to certify, govern, and integrate these innovations into forest carbon methodologies and the VCS Program

MEMBER COMPOSITION AND COMMITMENT

Participation in the FC Tech WG is expected to run over twelve months, from February 2024 to February 2025, with the possibility of an extension, and includes remuneration. FC Tech WG engagement will include providing input on electronic collaborative documents via email and attending, on average, one 60- to 90-minute conference call per month. Verra may also hold focused calls with a subset of FC Tech WG members on specific topics, where needed. No in-person meetings are expected, though side meetings at relevant conferences where members are participating may be organized. Members may be required to spend one to two hours preparing for conference calls. If willing, a member may extend their time commitment to include participation in ad hoc requests related to VCS forest carbon methodologies.

SELECTION CRITERIA

The FC Tech WG will represent a balance of experience, expertise, geographic representation, and stakeholder interests to support Verra's developmental needs. Verra will endeavor to convene a group of approximately 10 to 15 individuals. Verra may invite specific individuals from academia, non-governmental organizations, or the private sector to deepen and/or diversify the dialogue and perspectives held by the FC Tech WG.

Participants in the FC Tech WG should meet at least two of the following selection criteria:

- Strong knowledge and technical understanding of current approaches to forest carbon measurement and the operation of VCS forest carbon methodologies
- Deep understanding of the on-the-ground realities of VCS forest carbon projects, including the role of VVBs, Indigenous Peoples, and local communities
- Knowledge of and experience building DMRV platforms for use in nature-based climate solutions projects and working knowledge of the drivers of private sector demand for DMRV technologies
- Previous experience operationalizing AI and machine learning models in other primary industries or capital markets

OPERATIONS

Verra will formulate the FC Tech WG in coordination with the Forest Carbon Innovation Team within Verra's Program Development and Innovation Department. Verra staff will be responsible for organizing and facilitating FC Tech WG meetings, preparing and disseminating agendas and minutes, producing the conceptual framework, and organizing input and content review by the FC Tech WG. Verra may create smaller ad hoc groups for different aspects of VCS Program development drawn from the FC Tech WG and other stakeholders depending on needs, participant interest, availability, and expertise.

All recommendations and comments made by the FC Tech WG are determined consequential to Verra, including the final framework, which is subject to final approval by Verra's Executive Leadership Team.

The working language of the FC Tech WG will be English.

TERMINATION

FC Tech WG members commit to participating in the entire development phase of the guidance document, which is anticipated to conclude in Q1 2025. However, FC Tech WG members or Verra may give notice of termination of member participation in the FC Tech WG at any time. Verra reserves the right to terminate the FC Tech WG at any time.

Verra will decide, upon completion of the final draft of the guidance document, if the FC Tech WG will be dissolved, or if it will transition into a second phase to support the implementation of the guidance document.

APPLICATIONS

Interested parties are invited to apply for membership in the FC Tech WG until February 16, 2024. Please send your resume/CV and a brief description of how you meet the above selection criteria to forestcarbon@verra.org.