



# VERRA'S DIGITAL MRV PILOT PROGRAM: REQUEST FOR EXPRESSIONS OF INTEREST

28 December 2022

## INTRODUCTION

Verra seeks DMRV technology experts from various sectors and geographies to develop and test the implementation of DMRV technology tools and platforms in the VCS Program. Through these pilots, Verra will assess the potential applications of DMRV platforms, gain a better understanding of the benefits and risks of using DMRV platforms, draft guidance for broader development, use, and certification of DMRV in Verra's programs, and begin to create a pathway towards achieving Verra-envisioned DMRV.

Measurement, reporting, and verification (MRV) are critical to the credibility and effectiveness of carbon projects. Over the past decade, research and development on carbon credit and climate action technologies has yielded several innovations and tools for improving the accuracy, consistency, and data quality of MRV systems, lowering measurement and transaction costs, and increasing automation and digitalization.

DMRV (Digital MRV) is a software solution or service capable of data collection, processing, analysis, or synthesis for any MRV application, including project development, validation, verification, and registration. DMRV platforms may use remote sensing techniques, machine learning or artificial intelligence algorithms, mobile device applications, smart sensors, blockchain or distributed ledger applications and other digital technologies.

Earlier this year, Verra convened a Digital MRV Working Group (DMRV WG) to discuss DMRV system use in voluntary carbon markets. The WG looked at Verra's definitions of and vision for DMRV, how DMRV innovations can be applied to Verra's programs and standards, and guidance needed on the design, testing, certification, and integrity of DMRV systems. Projects developed using these certified platforms may eventually be able to be verified automatically or with reduced manual reviews. Nonetheless, transitioning voluntary carbon market standards from manual/analog to digital processes will require design, strategy, investment, and oversight changes to ensure success.

## OBJECTIVES AND APPROACH

The benefits of using DMRV platforms for Verra's programs include greater standardization and lower costs/less time needed to conduct various project development and MRV functions. There are also risks such as increased data/method uncertainty, reduced transparency, and lack of consistency and



compatibility with existing MRV processes. The DMRV pilot program will explore these benefits and risks in greater detail by testing DMRV tools and platforms that use existing methodologies to support project development. It will also begin creating processes and guidance for how DMRV platforms should be built and certified. More precisely, the DMRV Pilot Program will aim to:

1. Test DMRV's ability to conduct a range of functions (e.g., automated data collection and formatting, automated data processing, automated QA/QC of data, data analysis and calculations, reporting, validation, and verification of ERR calculations) using VCS-approved methodologies;
2. Support the digitalization of VCS-approved methodologies, project templates, and ERR calculations;
3. Begin developing rules and procedures for Verra's digital project management systems and registry to interact with third-party DMRV platforms;
4. Define protocols for automating validation and verification of project data generated by DMRV platforms;
5. Identify needed updates to the VCS Program to enable and maximize the benefits of DMRV platforms; and
6. Pinpoint the potential advantages and limitations of using DMRV platforms for specific project types or sectoral scopes.

The DMRV Pilot Program will follow a "learning-by-doing" approach. Verra seeks collaborations with groups with a strong understanding of the VCS or similar standards, that are interested in actively engaging in problem-solving with Verra's team. Verra anticipates that the DMRV pilot program will require an adaptive and creative approach.

## BENEFITS OF PARTICIPATION

Verra is looking to engage with project developers, validation and verification bodies, software and technology companies, academic/research groups, NGOs, and other stakeholders working on a broad range of DMRV technological innovations. Participants will have the opportunity to demonstrate the applications of their DMRV platforms in the world's largest voluntary carbon market program, the VCS. Participants will also help define Verra's DMRV strategy, including guidelines for potential DMRV platform certification. Last, participants will be able to test the integration of their DMRV platforms with Verra's digital portal for projects and methodologies that is under development.

## SCOPE

The DMRV Pilot Program will be focused on [VCS-approved methodologies, modules, and tools](#) across all sectoral scopes. However, the following methodologies being given priority:

- [VM0010 Methodology for Improved Forest Management: Conversion from Logged to Protected Forest, v1.3](#)

- [VM0025 Campus Clean Energy and Energy Efficiency](#)
- [VM0038 Methodology for Electric Vehicle Charging Systems, v1.0](#)
- [VM0041 Methodology for the Reduction of Enteric Methane Emissions from Ruminants through the use of 100% Natural Feed Supplement, v2.0](#)
- [VM0042 Methodology for Improved Agricultural Land Management, v1.0](#)
- [VM0044 Methodology for Biochar Utilization in Soil and Non-Soil Applications, v1.0](#)
- [VM0045 Improved Forest Management Methodology Using Dynamic Matched Baselines from National Forest Inventories, V1.0](#)
- [VCS New Methodology for Afforestation, Reforestation and Revegetation](#) (anticipated release Q1 2023)
- [AM0009: Recovery and utilization of gas from oil fields that would otherwise be flared or vented, v7.0](#)
- [AM0023: Leak detection and repair in gas production, processing, transmission, storage and distribution systems and in refinery facilities, v4.0.0](#)
- [AM0122: Recovery of methane-rich vapours from hydrocarbon storage tanks, v2.0](#)

Methodologies that are being phased out or revised will be given lower priority in the selection process.

## PILOT PROJECT APPROACH AND TIMELINE

The DMRV pilot projects will commence in Q1 2023 and run for an estimated one-year period, with the possibility of extension. The key phases of the pilot projects are as follows:

- Startup (Q1): Verra and participants will conduct initial meetings to define the objectives and scope of work for the DMRV pilot project and establish any necessary agreements
- Pilot implementation (Q2-Q3): Project activities will be implemented, and Verra and participants will meet regularly to discuss opportunities, challenges, and lessons learned
- Pilot assessment (Q4): Verra and participants will assess pilot project outcomes and develop recommendations for Verra's DMRV guidance and strategy. Some pilot projects may be extended upon mutual agreement

Verra does not anticipate that participating pilot projects will generate Verified Carbon Units (VCUs) or that their DMRV platforms will be automatically eligible for certification.

The time commitment for pilot project participants is expected to vary depending on the methodology and scope, technical complexity, experience and expertise of participants with Verra's programs, and project MRV requirements, amongst other factors. Project participants can expect to engage in regular (biweekly or monthly) check-ins with Verra staff during the project duration. Verra staff will work closely



with pilot project partners to define the scope of each pilot project, implement project activities, and validate project outcomes.

## APPLICATION PROCESS

Applicants should be familiar with the VCS Program rules and Verra's project development, review, validation, verification, and registration processes. Applicants with mature DMRV technology platforms, experience with the VCS program and credits, and consortiums representing project proponents, verifiers, and other key stakeholders are encouraged to apply.

Applicants are invited to submit a short expression of interest (up to 5 pages) outlining the following:

- Motivation and goals for participation in the DMRV Pilot Program
- Problem statement and key challenges to be addressed
- Proposed DMRV pilot project, with the following details:
  - Sectoral scope and relevant VCS methodologies/modules/tools
  - Readiness or existing technical capabilities of the participant's DMRV platform and how it will help streamline and improve carbon project development
  - Key personnel participating in the pilot and partners/consultants
  - How the pilot will help inform Verra's guidance on DMRV and platform certification

Expressions of interest should be submitted to Rishi Das, Manager, Technology Innovations (rdas@verra.org) by 10 February 2023.