

Response to the Request for Information on

Greenhouse Gas Technical Assistance Provider and Third-Party Verifier Program

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Contents

Introduction	1
Item-by-item responses.....	1
1. How should USDA define the terms “consistency,” “reliability,” “effectiveness,” “efficiency,” and “transparency” (see 7 U.S.C. 6712©(1)(A)) for use in protocol evaluation?.....	1
4. Which protocol(s) for generating voluntary carbon credits from agriculture and forestry projects should USDA evaluate for listing through the Greenhouse Gas Technical Assistance Provider and Third-Party Verifier Program?.....	2
5. For any protocol(s) identified under Question 4:.....	2
6. How should USDA evaluate technical assistance providers (TAP)? What should be the minimum qualifications, certifications, and/or expertise for a TAP to qualify for listing under the Program?	3
7. Should the qualifications and/or registration process be different for entities and individuals that seek to register as a TAP?	3
8. What should be the minimum qualifications and expertise for a third-party verifier to qualify for registration under the Program?.....	3

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Introduction

Mathematica is a nonpartisan research and data analytics organization with a mission to improve public well-being. We are responding to the request for information from the U.S. Department of Agriculture (USDA) for implementing the Greenhouse Gas Technical Assistance Provider and Third-Party Verifier Program for voluntary carbon markets (VCMs). Our summarized responses to the specific questions follow and were led by Jennifer L. Soong, senior agriculture and forestry greenhouse gas (GHG) scientist. We appreciate the opportunity to provide input and are committed to supporting the development of effective, efficient, and equitable protocols and programs.

Item-by-item responses

1. How should USDA define the terms “consistency,” “reliability,” “effectiveness,” “efficiency,” and “transparency” (see 7 U.S.C. 6712©(1)(A)) for use in protocol evaluation?

- **Consistency.** Protocols should yield consistent estimates of reductions and removals of GHGs with identical project inputs and lead to consistent estimates of GHG impacts, within some reasonable range of expected outcomes based on published findings.
- **Reliability.** Protocols should measure reductions and removals of GHGs consistently across time and different data collectors. Sampling, measurement, or modeling predictions must demonstrate performance through calibration, validation, reporting of uncertainty, and peer review against measured outcomes in representative scenarios (climate, soil, and management).
- **Effectiveness.** Protocols must demonstrate they are effective at incentivizing the transition to climate-smart practices that would not have occurred without VCMs (additionality). Protocols must adhere to accepted scientific standards to establish causality of the voluntary program in reducing or removing GHGs, while also being effective at incentivizing sustainable land management for producers.

Further, effectiveness in practice must consider both the GHG accounting impacts and the ability to effectively scale programs with producers. The study should examine requirements related to generating evidence and multiyear commitments for producers to be eligible under various protocols. It should also consider how those requirements affect producer’s freedom to choose their own farming practices without financial penalty or risks that could disproportionately affect less-informed, less-educated, or less-wealthy producers.

- **Efficiency.** Efficiency is the total quantity of additional GHGs reduced or removed per dollar invested—that is, the marginal cost of abatement. The study should account for costs incurred by buyers of credits and costs for producers to participate.
- **Transparency.** Scientific transparency into how credits are generated, validated, and verified is critical to understanding the climate impacts of these protocols. Transparency will enable buyers to determine the value of credits generated under these protocols and have more confidence in the climate impacts they can claim, thus increasing the value of carbon credit revenue streams to producers.
 - The study must clearly demonstrate quantification boundaries and account for net carbon dioxide, nitrous oxide, and methane when relevant.

- Full life cycle assessments along with field-level accounting help to provide full transparency into how these protocols facilitate projects with meaningful climate impacts.
- Separating out removals (reversible or impermanent) and reductions (irreversible), along with model validation reporting, is critical to transparent valuation of the global warming potential.
- The following protocols could improve transparency in the verification process. For example, although Climate Action Reserve’s Soil Enrichment Protocol (CAR SEP) and VM0042 require soil sampling and resampling, it is not clear how many soil samples are needed or what the purpose of the resampling is. Another example of lack of transparency relates to the degree of specificity modeling results are based on. Does credit generation via models occur at the field level, at within-field subareas, or across large regions of generalizable farming archetypes? How do these various levels of results affect the climate impacts, the risks of reversals and buffer pool contributions, and understanding of farmers for how much their efforts to improve their practices will result in increased outcome and payments for them?

4. Which protocol(s) for generating voluntary carbon credits from agriculture and forestry projects should USDA evaluate for listing through the Greenhouse Gas Technical Assistance Provider and Third-Party Verifier Program?

We recommend the following protocols:

1. Climate Action Reserve’s Soil Enrichment Protocol (CAR SEP)
<https://www.climateactionreserve.org/how/protocols/ncs/soil-enrichment/>
2. Verra VM0042 v2.0, although this protocol is currently under revision and v3.0 is expected for release in mid-2025.
<https://verra.org/methodologies/vm0042-methodology-for-improved-agricultural-land-management-v2-0/>
3. Greenhouse Gas Protocol’s Land Sector and Removals Guidance (Scope 3)

The requirements of CAR SEP and VM0042 around additionality and buffer pools make them effective. The model guidance supplemental documentation also provides an acceptable level of transparency, consistency, and reliability, although some details tackled in the VM0042 v.3 revision can provide further transparency into verification.

https://www.climateactionreserve.org/wp-content/uploads/2022/04/SEP_Model_Cal_Val_Guidance_4.2022.pdf

5. For any protocol(s) identified under Question 4:

- (a) Has the protocol resulted in the generation and sale of credits? If yes, when was the most recent year and volume of credit generation and retirement? If not, is there evidence that the protocol will generate credits (e.g., projects are under development)?**
1. CAR SEP’s and Verra VM0042 have generated and sold credits.
 2. Greenhouse Gas Protocol’s Land Sector and Removals Guidance has not yet generated credits but has undergone several years of public review. It is planned for final release in mid to late 2024.

3. Updated details on VCM credit generation are available at <https://gspp.berkeley.edu/research-and-impact/centers/cepp/projects/berkeley-carbon-trading-project/offsets-database>.

(d) Does the protocol reduce the cost, paperwork, and/or reporting burden for smaller, diversified, or underserved farmers, ranchers, or private forest landowners, while maintaining reliability of offsets? If yes, how?

No, the three protocols do not significantly reduce the burden for smaller or underserved farmers. There is also no incentive for project developers to reduce this burden for them. Typically, project developers take a fraction of the total credits generated with larger farms generating more credits due to their larger land area. This system incentivizes project developers to focus their limited customer support resources on larger farms due to the higher credit outcomes they generate. This leaves a missing gap for support for smaller farms, which the USDA technical assistance providers (TAPs) could help to fill. Further, the protocols do not specify any data collection data on gender and race, which is essential to monitor program support for historically underserved farmers and ranchers.

(e) Does the protocol allow multiple entities to aggregate into a single project? If yes, what are the parameters for aggregation and is there evidence that aggregation has successfully occurred?

Climate Action Reserve and Verra VM0042 allow for aggregation of multiple entities into a single project. The potential for aggregation in the Greenhouse Gas Protocol's Land Sector and Removals Guidance is unknown but likely. Aggregation and scale help to reduce uncertainty and increase confidence in model-based predictions (<https://onlinelibrary.wiley.com/doi/10.1111/j.1365-2486.2009.01951.x>).

6. How should USDA evaluate technical assistance providers (TAP)? What should be the minimum qualifications, certifications, and/or expertise for a TAP to qualify for listing under the Program?

TAPs should have dedicated personnel to support low-income, small-holder, minority, or other underserved communities, with demonstrated experience working with these groups. This targeted support can help these communities participate in the VCM opportunities. This is a gap not incentivized in the current VCM protocols in which USDA could serve an important role.

7. Should the qualifications and/or registration process be different for entities and individuals that seek to register as a TAP?

If the USDA focuses its efforts on filling the gap suggested in response to Question 6, then the registration process for TAPs should include specific requirements for experience and dedication to underserved communities, ensuring equitable support and access to resources.

8. What should be the minimum qualifications and expertise for a third-party verifier to qualify for registration under the Program?

Verifiers must have scientific understanding of models and the statistical methods to deploy them at large scales (that is, demonstrated scientific publication or active research record). USDA could consider a certified verifier certification along the lines of a Certified Crop Advisor, which would

include active participation in educational training activities. For example, verifiers need to know when to ask for a demonstrated model sensitivity analysis to determine if input sources with known error, such as remote sensing of activities, lead to material impacts on model results. Verifiers need to understand these nuances enough to determine when there are additional data burdens to require of project developers and producers and when there is an acceptable degree of uncertainty to still efficiently implement programs that lead to true removals and emission reductions.

Project developers could request exceptions to protocol requirements to ease the burden of data collection or eligibility for producers. If verifiers sanction exceptions to USDA-approved protocols, USDA could take responsibility for approving such deviations from the protocols.

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