



Adapted S3S Methodology

S3S-VM0042

IMPROVED AGRICULTURAL LAND MANAGEMENT

Version 1.0

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Sectoral Scope 15: Agriculture

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1 SUMMARY DESCRIPTION

Project Category	Agricultural land management
Project Activity Type	Improved cropland management Improved grazing management Restoration of degraded agricultural land Enhanced weathering applications in agriculture
Baseline Type	Project method
Mitigation Outcome	Reductions, removals, and carbon stock outcomes
Approximate Carbon Stock Values	Enabled
Additionality (Optional)	Project method

This methodology adaptation (S3S-VM0042) is designed to enable the application of Verified Carbon Standard (VCS) methodology VM0042 *Improved Agricultural Land Management* in Verra's Scope 3 Standard (S3S) Program. This methodology adaptation is applicable to agricultural projects producing impacted products.

The procedures and requirements of VM0042, v2.2 must be applied unless this document indicates otherwise.

The rationale for each modification made in this document is provided in Appendix 1: Rationale for Modifications.

Refer to VM0042, v2.2 for a summary description of the methodology. Demonstration of additionality is optional in the S3S Program. Where the project proponent elects to demonstrate additionality, the additionality procedures of VM0042, v2.2 apply as an optional pathway, in accordance with Section 4.5 of the *Scope 3 Standard, v1.0*. Demonstration of regulatory surplus is required, as specified in Section 6 of this document.

2 SOURCES

This methodology adaptation applies to VM0042 *Improved Agricultural Land Management*, v2.2. The project proponent must use this document in conjunction with VM0042, v2.2.

The most recent applicable versions of the tools and modules identified in VM0042, v2.2 must also be used.

This methodology adaptation uses the most recent applicable version of S3T001 S3S *Program Attribution and Distribution Tool*.

3 DEFINITIONS

The definitions in the *S3S Program Definitions* apply to this methodology adaptation and take precedence over analogous terms in VM0042, v2.2. Definitions specific to VM0042, v2.2 apply where the *S3S Program Definitions* do not define a term. Where a term is defined in neither document, the most recent applicable version of the *VCS Program Definitions* applies.

The table below identifies analogous terms between the VCS and S3S programs.

VCS Program	S3S Program
Crediting period	<u>Issuing period</u>
Project boundary	<u>Sources, sinks, and removals boundary (SSR boundary)</u>
Non-permanence risk	Reversal risk
AFOLU Non-Permanence Risk Tool	S3S AFOLU Reversal Risk Tool
VCS pooled buffer account	Reversal reserve account

4 APPLICABILITY CONDITIONS

All applicability conditions of VM0042, v2.2 must be met, considering the modification described below.

Applicability condition 3 of VM0042, v2.2 is modified as follows:

- 3) Project activities are implemented on land that is either cropland or grassland at the project start date. The land must remain cropland or grassland for 20 years after the project start date or until the end of the issuing period, whichever is longer, except under either of the following scenarios:
 - a) Introduction of temporary grassland into cropland where it is demonstrated, prior to the project start date and to the addition of new project activity instances, that the

integration of forage crops (e.g., annual/perennial grasses, legumes) into annual crops is part of a planned, long-term ALM system (e.g., integrated crop-livestock system). The project proponent must provide documentation of the long-term management plans, covering the duration of the project, that describe proposed practices, crops, and expected benefits and outcomes of integrated grassland-cropland management

- b) A one-time conversion from grassland to cropland or vice versa where it is demonstrated, prior to project validation, that project lands in the baseline scenario are degraded and the introduction of improved land use change practices would significantly improve soil health. The project proponent must provide documentation demonstrating that lands are degraded at the start of the project and degradation will continue in the baseline scenario due to the presence of degradation drivers or pressures in the baseline scenario. See Appendix 2 in VM0042, v2.2 for procedures on how to propose this type of land use change.

4.1 SSR Boundary

The SSR boundary must be determined following the procedure for determining the project boundary provided in VM0042, v2.2.

5 BASELINE SCENARIO

The baseline scenario must be determined following the procedure provided in VM0042, v2.2, considering the modification described below:

Development of Schedule of Activities in the Baseline Scenario

[...]

The schedule of activities in the baseline scenario is valid until the end of the issuing period. At the end of each issuing period (i.e., at issuing period renewal), production of the commercial crop(s) in the baseline scenario is re-evaluated. Published regional (sub-national) agricultural production data from within the five years immediately preceding the end of the current issuing period must be consulted.

[...]

6 REGULATORY SURPLUS AND ADDITIONALITY

6.1 Regulatory Surplus

A full demonstration of additionality, as outlined by the procedure provided in VM0042, v2.2, is not required.

Instead, the ~~project proponent~~ must demonstrate ~~regulatory surplus~~ in accordance with Section 4.4 of the *Scope 3 Standard, v1.0*.

6.2 Additionality (Optional)

Demonstration of additionality is optional in the ~~S3S Program~~. Where the ~~project proponent~~ elects to demonstrate additionality, they must apply the additionality procedures in Section 7 of VM0042, v2.2 in accordance with Section 4.5 of the *Scope 3 Standard, v1.0* and with the following modification:

Step 1: Regulatory surplus

The ~~project proponent~~ must demonstrate ~~regulatory surplus~~ in accordance with Section 4.4 of the *Scope 3 Standard, v1.0*.

[...]

7 QUANTIFICATION OF GHG OUTCOMES

7.1 Summary

Refer to VM0042, v2.2 for a summary of allowable quantification approaches. Where a ~~project~~ spans more than one country, ~~GHG outcomes~~ must be quantified and reported separately by country, in accordance with Section 4.6.3 of the *Scope 3 Standard, v1.0*.

7.2 Baseline Emissions

~~Baseline emissions~~ must be determined following the procedures provided in VM0042, v2.2.

7.3 Project Emissions

Project emissions must be determined following the procedures provided in VM0042, v2.2.

7.4 Leakage Emissions

Leakage emissions must be determined following the procedures provided in VM0042, v2.2. The project proponent must state leakage emissions separately and not combine them with reductions and removals, as specified in Section 7.5 in this methodology adaptation. Leakage emissions must be reported as a unit attribute for all issued Scope 3 Units (S3Us) and reportable S3Us (rS3Us).

7.5 Net ERRs

Net emission reductions and removals (ERRs) must be determined following the procedures provided in VM0042, v2.2, with the following modifications to Equations (38) and (41):

$$ER_{NET,t} = ER_t - LK_{ER,t} \quad (38)$$

Where:

$ER_{NET,t}$ = Estimated net GHG emission reductions in year t (t CO₂e)

ER_t = Estimated reductions in year t (t CO₂e)

$LK_{ER,t}$ = Leakage allocated to GHG emission reductions in year t (t CO₂e)

The removal of the leakage deduction in Equation (38) results in parameters $ER_{NET,t}$ and ER_t being equivalent. $ER_{NET,t}$ (equal to ER_t) is used in Equations (43) and (77) of VM0042, v2.2.

$$CR_{NET,t} = CR_t - LK_{CR,t} \quad (41)$$

Where:

$CR_{NET,t}$ = Estimated net carbon dioxide removals in year t (t CO₂e)

CR_t = Estimated removals in year t (t CO₂e)

$LK_{CR,t}$ = Leakage allocated to carbon dioxide removals in year t (t CO₂e)

The removal of the leakage deduction in Equation (41) results in parameters $CR_{NET,t}$ and CR_t being equivalent. $CR_{NET,t}$ (equal to CR_t) is used in Equations (43) and (78) of VM0042, v2.2.

7.6 Uncertainty

Uncertainty must be determined following the procedures provided in VM0042, v2.2.

7.7 GHG Outcomes With or Without Reserve Deductions

Calculation of GHG outcomes with or without reserve deductions must be determined following the procedures provided in VM0042, v2.2, with the following modifications to Equations (75)–(79):

In Equations (75) and (76), the parameter $NPR\%$ is replaced with $RRU\%$, defined as follows:

RRU = Reversal reserve unit contribution; selected by project proponent (i.e., not determined by the S3S Program AFOLU Reversal Risk Tool) (%)

Equations (77) and (78) use parameters with VCS-specific naming conventions, which must be understood as follows in this methodology adaptation:

- $VCU_{ER,t}$ is replaced with $GHG_{ER,RD,t}$ which is the number of GHG outcomes that are assigned to reductions in year t , after deduction of reversal reserve units
- $VCU_{CR,t}$ is replaced with $GHG_{CR,RD,t}$ which is the number of GHG outcomes that are assigned to removals in year t , after deduction of reversal reserve units

Equation (79) must be omitted.

$$\cancel{VCU_t = VCU_{ER,t} + VCU_{CR,t}} \quad (79)$$

Note – Calculation of S3Us that may be issued is determined using the GHG outcomes with or without reserve deductions, following the procedures outlined in the most recent version of S3T001.

8 MONITORING

8.1 Data and Parameters Available at Validation

The project proponent must obtain the data and parameters available at validation as specified in VM0042, v2.2.

8.2 Data and Parameters Monitored

The project proponent must obtain all monitored data and parameters as required in VM0042, v2.2, with the following modifications:

For the soil organic carbon (SOC) parameters listed in Table 1, approximate carbon stock data may be used in place of direct measurement, provided each source is spatially relevant to the applicable quantification unit and applicable to the specific ALM activity being implemented within that unit.

Table 1. Allowable sources of approximate carbon stock data for SOC stock parameters

SOC stock parameter	Equation number	Allowable sources of approximate carbon stock data
$\overline{SOC}_{bsl,i,t}$ = Areal mean <u>carbon stocks</u> in the SOC pool in the <u>baseline scenario</u> for quantification unit i at the end of year t (t CO ₂ e/ha)	(46)	SoilGrids database Soils Revealed platform FAO GSOC map - Other soil maps and databases with comparable spatial resolution and accuracy
$\overline{SOC}_{bsl,i,t-x}$ = Areal mean <u>carbon stocks</u> in the SOC pool in the <u>baseline scenario</u> for quantification unit i in year $t - x$ (t CO ₂ e/ha)	(46)	
$\overline{SOC}_{wp,i,t}$ = Areal mean <u>carbon stocks</u> in the SOC pool in the <u>project scenario</u> for quantification unit i at the end of year t (t CO ₂ e/ha)	(47)	Observed SOC increase rates from peer-reviewed literature The project's ALM activity must match the experimental treatment of the peer-reviewed publication (see examples in Table 2 of VMD0053, v2.1). The <u>project proponent</u> should prioritize selecting peer-reviewed studies physically closest to the project's geographic location. At minimum, the observations must be from the same climate zone, have the same soil textural class, and consider the same crop functional group(s) as the project.
$\overline{SOC}_{wp,i,t-x}$ = Areal mean <u>carbon stocks</u> in the SOC pool in the <u>project scenario</u> for quantification unit i at the end of year $t - x$ (t CO ₂ e/ha)	(47)	

8.3 Description of the Monitoring Plan

The project proponent must follow the monitoring plan and procedures provided in VM0042, v2.2.

9 REFERENCES

References remain ~~unchanged~~ from VM0042, v2.2.

APPENDIX 1: RATIONALE FOR MODIFICATIONS

This appendix consolidates the rationale for the modifications made in this methodology adaptation, cross-referenced to the section of this document in which each modification appears. Each rationale identifies the S3S Program rules necessitating the revision.

Section 1 (Summary Description) and Section 6 (Regulatory Surplus and Additionality): VM0042, v2.2 requires a full demonstration of additionality. In the S3S Program, regulatory surplus must be demonstrated at validation (Scope 3 Standard, v1.0 Section 4.4), while demonstration of additionality is optional (Scope 3 Standard, v1.0 Section 4.5). The additionality procedures of VM0042, v2.2 are retained as an optional pathway, preserving methodological integrity for projects electing to demonstrate additionality.

Section 4 (Applicability Conditions), applicability condition 3: VM0042, v2.2 applicability condition 3 states that “The land must remain cropland or grassland throughout the project lifetime.” The VCS Program requires agriculture, forestry, and other land use projects to have a crediting period of 20–100 years, meaning that this condition effectively requires that the land remains cropland or grassland for at least 20 years. In the S3S Program, all projects have a five-year, renewable issuing period (S3S Program Standard, v1.0 Section 2.5.1), which could reduce the time that the land must remain cropland or grassland to five years. The applicability condition is revised in S3S-VM0042 to preserve its intent across both programs.

Section 5 (Baseline Scenario): In the VCS Program, the baseline reassessment cadence of VM0042, v2.2 is mapped to the issuing period. The Scope 3 Standard requires the validity of the baseline scenario to be reassessed at issuing period renewal (Scope 3 Standard, v1.0 Section 2.5) in accordance with the baseline validity reassessment procedure and outcome requirements (Scope 3 Standard, v1.0 Section 4.3).

Sections 7.4 and 7.5 (Leakage; Equations 38 and 41): Leakage is not deducted in the calculation of GHG outcomes (reductions and removals). Instead, it is quantified and monitored in accordance with the applied methodology, stated separately, and reported as a unit attribute, as set out in the definition of “leakage” in the S3S Program Definitions and Section 4.6 of the Scope 3 Standard, v1.0.

Section 7.7 (Equations 75 and 76): VM0042, v2.2 requires the project proponent to input the NPR% parameter as determined by the VCS AFOLU Non-Permanence Risk Tool. In this methodology adaptation, NPR% is replaced with RRU%, the reversal reserve unit contribution percentage. The project proponent may apply any value from 0% to 100%; the percentage is not determined by a reversal risk tool, in accordance with Section 7.2 of the Scope 3 Standard, v1.0.

Section 7.7 (Equations 77 and 78): VCUs are not issued within the S3S Program. The replacement parameters are linked to terms defined within the S3S Program (S3S *Program Definitions*, v1.0 “Scope 3 Unit (S3U)”).

Section 7.7 (Equation 79): The calculation of total VCUs is not relevant to the S3S Program. The number of S3Us that may be issued is determined using the S3T001 *S3S Program Attribution and Distribution Tool* (Scope 3 Standard, v1.0, Section 5.2.1).

Section 8.2 (Data and Parameters Monitored): Use of approximate carbon stock data enables cost-effective establishment of SOC parameter values while maintaining scientific rigor and reducing barriers to project development. This approach aligns with the S3S Program’s objective of enabling annual reporting of corporate inventories (Scope 3 Standard, v1.0 Section 7.1).

DOCUMENT HISTORY

Version	Date	Comment
v1.0	15 th September 2026	Initial version released under S3S Program Version 1.0