

The BCR0017 Soil Carbon Removal through Agricultural Management and Mineral Weathering Methodology is part of the BioCarbon Standard, the greenhouse gas (GHG) program of BioCarbon.

This methodology provides the framework for quantifying, monitoring, reporting, and verifying carbon dioxide removals achieved through managed agricultural soil activities.

In accordance with the BioCarbon Standard's public consultation procedures, the draft version of the methodology was published for a 30-day consultation period to receive feedback from technical experts, project developers, auditors, and stakeholders.

BioCarbon acknowledges the comments received during the public consultation. All comments were reviewed by the BioCarbon Technical Team and, where relevant, limited adjustments were incorporated to improve clarity, consistency, and alignment with the BioCarbon Standard.

The following table summarizes the comments received and the corresponding clarifications and adjustments made during the revision process.

ANNEX A. Comments Received during Public Consultation and BioCarbon Responses

Name Nicolas Angeles
 Position General Director
 Organization EcoScience Lab
 Email nicolas.angeles@ecosciencelab.com
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Nº	Reference (Section and page in the document)	Comment, Observation, or Suggestion	Clarification / Adjustment
1	Front page, page 1	Modification of methodologies title: “BCR0017 Soil Carbon Removal through Agricultural Management and Mineral Weathering” to “BCR0017 – Soil Carbon Removal through Agricultural Management, Mineral Weathering, and Biological Carbon Mineralization”	Not incorporated. BioCarbon reviewed the proposed title change. The proposed wording “Biological Carbon Mineralization” was not incorporated because it may be interpreted ambiguously in soil science and could suggest either mineralization of organic carbon to CO ₂ or a separate crediting pathway not established under this methodology. BCR0017 credits only quantified and verified net carbon dioxide removals in eligible SOC and/or SIC pools. Biological inputs and microbial interventions are already covered as eligible activity categories

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			where they support SOC stabilization, mineral weathering, or SIC formation. No change was made to the methodology title.
2	Introduction, page 10	Adds context on the magnitude of soil organic and inorganic carbon stocks, their role in the global carbon cycle, and the historical losses from agriculture. (A bibliography would be needed for the sources they mentioned)	Accepted in part. BioCarbon acknowledges the comment. A limited contextual clarification was considered appropriate to explain the role of SOC and SIC in agricultural soil carbon dioxide removal and the need for conservative, measurable, and verifiable accounting. Broader background text, literature-review material, or unsupported quantitative claims were not incorporated, in order to maintain the methodological focus of the document. References used in the final methodology are included in the bibliographic references.

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3	Objectives, page 12-13	The proposed revision reorganizes and expands the objectives (C, D, G, H, I, J).	Not incorporated. BioCarbon reviewed the proposed reorganization and expansion of the objectives. The objectives of BCR0017 are maintained because they reflect the intended methodological scope: conservative quantification of net carbon dioxide removals in managed agricultural soils, separate SOC and SIC accounting, mineral weathering where applicable, and consistency with the BioCarbon Standard and mandatory BioCarbon Tools. The proposed revision would materially expand and restructure the purpose of the methodology and was therefore not incorporated.
4	Scope, page 14-17	The proposed revision expands the scope to include: (i) a three-year minimum implementation and monitoring period; (ii) detailed biogeochemical pathway descriptions for SOC stabilization and SIC formation; (iii) technical criteria for selecting soils, crops, and inoculant	Not incorporated. BioCarbon reviewed the proposed scope revision. The proposed expansion was not incorporated because it would introduce activity-specific and technology-specific prescriptions,

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		formulations, among others. Propose erase adjustment deductions required by BioCarbon.	including a fixed three-year implementation and monitoring period and detailed requirements for soil, crop, and inoculant selection, that are not necessary for a globally applicable outcome-based methodology. The proposal to remove adjustment deductions was not accepted. BCR0017 applies a net CDR accounting approach, and gross SOC and/or SIC removals must be adjusted for project emissions, leakage, uncertainty, reversals where applicable, reserve contributions, and any other deductions required under the BioCarbon Standard and applicable BioCarbon Tools.
5	Applicability conditions/Additional requirement for mineral amendments, page 19-22	Adds new applicability conditions to the existing framework. For example it includes: (i) The project area must be a non irrigated cropland; (ii) The soil must have a pH equal to/or higher than 6.3 at the beginning of the season sample. Section 5.1 on mineral amendments is	Accepted in part. BioCarbon acknowledges the comment and incorporated a compact additional requirement for mineral amendments in the applicability conditions. The final text requires documented mineralogical, chemical, contaminant, leachability, dust, occupational safety,

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		removed from the applicability conditions.	legal sourcing, and chain-of-custody evidence, and excludes materials that present unacceptable risks to soil, water, biodiversity, workers, or communities. The proposed restrictions requiring the project area to be non-irrigated cropland and requiring a minimum initial soil pH of 6.3 were not incorporated because they are overly prescriptive and could unnecessarily exclude valid project configurations. The proposal to remove the mineral amendment requirement from the applicability conditions was not accepted, because mineral amendment safety and traceability are eligibility matters.
6	Spatial Boundary, page 33	Terminology modification: “quantification period” to “quantification and/or crediting period”.	Not incorporated. BioCarbon reviewed the terminology proposal. The term “quantification period” is maintained to ensure consistency with the BioCarbon Standard and the terminology used throughout BCR0017. The expression

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			“quantification and/or crediting period” was not incorporated because it may create unnecessary ambiguity in the application of BioCarbon requirements.
7	Carbon pools, page 35 (Table 1. Carbon pools included in the project boundary)	Updates and restructures the carbon pools table. For example it includes: (i) simplified table structure, removing the "Baseline scenario" and "Project scenario" columns; (ii) a new row is added for "Dissolved organic carbon (DOC) and dissolved inorganic carbon (DIC) exported outside the monitored soil profile; (iii) the justification for SOC is revised to specify quantification separately from SIC.	Accepted in part. BioCarbon reviewed the proposed restructuring of the carbon pools table. The existing table structure is maintained because the distinction between baseline scenario and project scenario supports transparency and verification. The clarification that SOC and SIC are quantified separately is already reflected in the methodology. DOC and DIC exported outside the monitored soil profile are not included as eligible crediting pools under this version of the methodology. Where such flows are material, they shall be treated conservatively in accordance with the methodology and applicable BioCarbon Tools; they shall not be credited unless BioCarbon approves a

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			specific accounting approach or module in the future.
8	Treatment of insignificant sources, sinks, and pools, page 42	Adds specificity to the materiality and exclusion criteria (a),(c),(d).	Clarification provided; no change made. BioCarbon reviewed the proposed additional specificity for insignificant sources, sinks, and pools. The current methodology already requires exclusions to be conservative and only where they do not overestimate net removals. Sources, sinks, or pools that are material, attributable to the project activity, or required by the applicable BioCarbon Tools shall be included. Further prescriptive language was not incorporated to avoid unnecessary duplication of the BioCarbon MRV, Leakage, and Uncertainty Tools.
9	General description of project activities/ Eligible activity categories, page 43	Proposed clarifications for the activities of the methodology. For example it includes: (i) explicitly state that crediting is based only on quantified and independently verified net CO ₂ removals	Accepted. BioCarbon acknowledges the comment. The final methodology clarifies that eligible project activities are not credited on the basis of implementing a

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		in eligible pools; (ii) new requirement for mineral weathering interventions.	specific input, product, practice, or technology. Crediting is based only on quantified and verified net carbon dioxide removals in eligible SOC and/or SIC pools. The methodology also clarifies that mineral weathering interventions are eligible only where they contribute to measurable and verifiable SOC and/or SIC removals in accordance with the methodology.
10	General requirement/Activity-specific additionality considerations/Reassessment	Proposed revisions for the additionality requirements. Key changes include: (i) addition of financial, technological, and operational barriers associated with rigorous soil carbon monitoring; (ii) clearer distinction between general management practices and those designed for long-term carbon sequestration.	Clarification provided; no change made. BioCarbon reviewed the proposed revisions to the additionality section. Additionality under BCR0017 is governed by the mandatory BioCarbon Baseline and Additionality Tool. The methodology already distinguishes between general management practices and project activities designed to generate measurable long-term carbon dioxide removals. It also clarifies that the use of a product, input, technology, mineral amendment, biological input, or agronomic practice does not, by

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			itself, demonstrate additionality. Financial, technological, operational, or monitoring-related barriers may be used as evidence where they are project-specific, verifiable, and assessed under the BioCarbon Baseline and Additionality Tool. No additional methodology-specific presumption was incorporated.
11	Baseline SOC/Baseline reassessment, pg 49-50 Dynamic baseline requirement pg 52	Adds several clarifications to the baseline requirements. Key changes include: (i) a new subsection on spatial stratification (13.2) (ii) an additional requirement for models that are used to project baseline SOC trajectories (iii) a new requirement in direct soil measurements for baseline SOC and SIC stocks.	Accepted in part. BioCarbon acknowledges the comment. The methodology already includes requirements for baseline SOC, baseline SIC, baseline reassessment, dynamic baseline application, baseline consistency with IPCC land categories, and documentation. Spatial stratification, soil sampling, direct measurement, and model use are addressed in the monitoring and quantification sections. Additional requirements for models used to project baseline SOC trajectories are covered through the methodology's

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			requirements for conservative, documented, verifiable, and, where applicable, calibrated or validated modelling approaches. A separate new subsection was not incorporated to avoid duplication and preserve the structure of the methodology.
12	SIC removals/ Exogenous inorganic carbon deduction, pg 59-60	Adds variable definitions for the SIC stock change equations: stratum, t1 and t2. Propose revision to the deduction rule. Key additions include: (i) expanding the applicability to exogenous inorganic carbon deduction; (ii) adding a clarification for non-carbonate silicate amendments and silicate minerals.	Accepted in part. BioCarbon reviewed the proposed revisions to SIC removals and the exogenous inorganic carbon deduction. Clarifications to variable definitions were considered where they improve readability and do not change the accounting logic. However, the deduction rule was not relaxed. Exogenous inorganic carbon introduced through external inputs shall not be credited as atmospheric carbon dioxide removal and shall be conservatively deducted where relevant. Non-carbonate silicate amendments and silicate minerals are addressed through the mineral

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			weathering and SIC attribution requirements, including the conservative exclusion of non-attributable SIC changes.
13	SIC attribution cap for enhanced mineral weathering, pg 61-62	Expands the SIC attribution cap methodology. Key additions include: (i) introduction of a second equation; (ii) specification that CO ₂ uptake potential shall be determined via XRF analysis ; (iii) addition of an incremental weathering fraction parameter and a conservative loss factor; (iv) include explicit uncertainty deduction (v) clarification of verified inorganic carbon removals.	Accepted in part. BioCarbon acknowledges the comment and strengthened the SIC attribution cap for enhanced mineral weathering. The methodology now requires the fraction of mineral amendment weathered during a monitoring period to be estimated using approved, project-appropriate, conservative, and verifiable methods. Modelled estimates shall be calibrated or validated with project-relevant field or laboratory data and shall include explicit uncertainty treatment. Where weathering cannot be attributed with sufficient confidence, claimed SIC removals shall be reduced or excluded. The proposed second equation, mandatory XRF-only approach,

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			incremental weathering fraction parameter, and separate conservative loss factor were not incorporated as mandatory standalone requirements. BioCarbon considers that these elements may be technically relevant in specific project contexts, but they are not suitable as universal requirements for a globally applicable, outcome-based methodology. BCR0017 requires the project holder to demonstrate mineral composition, CO₂ uptake potential, weathering attribution, uncertainty treatment, and conservative deductions using approved, project-appropriate, verifiable, and replicable methods. XRF, additional analytical methods, incremental weathering calculations, or conservative loss factors may be used where appropriate and justified, but they are not prescribed as the only acceptable approach.

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14	Project emissions, pg 62-63	The proposed revision adds new clarifications. Key additions include: (i) scope 1 and 2 emissions for mineral processing; (ii) direct and indirect emissions for N ₂ O; (iii) compared baseline conditions for N ₂ O, CH ₄ ; (iv) a provision for mineral amendments; (v) clarification lime emissions quantification.	Accepted in part. BioCarbon reviewed the proposed clarifications to project emissions. The methodology already requires the accounting of material project emissions, including emissions from input production, mineral extraction and processing, transport, storage, field application, fuel use, electricity use, irrigation changes, nutrient management, CH ₄ , N ₂ O, lime, limestone, dolomite, carbonate amendments, and urea application where applicable. The corporate inventory terminology “Scope 1 and Scope 2” was not incorporated because BCR0017 follows a project-boundary and source-based GHG accounting structure rather than a corporate inventory structure. Clarifications related to carbonate and lime emissions were maintained where consistent with the methodology.

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15	Energy-related project emissions/ Transport emissions, pg 64-65	Adds clarifications to energy-related emissions. In transport emissions, suggest monitoring period specification in the fuel combustion emissions categories and new specifications for the quantification.	Clarification provided; no change made. BioCarbon reviewed the proposed additional specifications for energy-related and transport emissions. The methodology already includes provisions for energy-related project emissions and transport emissions, and requires material emissions to be monitored, documented, and deducted. Additional project-level details, including fuel consumption, electricity use, transport activity data, distances, quantities transported, emission factors, and monitoring period information, shall be documented in accordance with the MRV Tool and the applicable data and parameter requirements. Further prescriptive detail was not incorporated to avoid duplicating general BioCarbon tools and to maintain proportionality across project types.
16	Direct N ₂ O emissions from managed soils/ Nitrogen	The proposed revision adds clarifications. Key additions include: (i)	Accepted in part.

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	mineralized due to SOC loss/ Indirect N ₂ O emissions from volatilization, pg65-67	consideration to disaggregate emission factors by moisture and climate; (ii) clarification that for SOC > 0, F_SOM,m = 0; (iv) disaggregation by livestock type for N₂O_PRP; (v) a new provision suggesting Tier 2 or Tier 3 approaches In Nitrogen mineralized due to SOC loss the revision adds a new hierarchical approach for determining R_LU. In N₂O emissions from volatilization the revision suggests disaggregation by fertilizer type; and disaggregation by amendment type.	BioCarbon reviewed the proposed revisions to direct N₂O emissions, nitrogen mineralized due to SOC loss, and indirect N₂O emissions from volatilization. The methodology maintains an IPCC-based structure for N₂O accounting and allows higher-tier or more disaggregated approaches where project-specific data are available, verifiable, and conservative. The proposed mandatory disaggregation by moisture, climate, livestock type, fertilizer type, and amendment type was not incorporated as a general requirement because it could make the methodology impracticable for globally applicable projects. The methodology clarifies that nitrogen mineralization associated with SOC loss shall be accounted for where material, and SOC gains shall not be used to generate negative N₂O emissions unless expressly allowed by

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			the applicable IPCC method and BioCarbon requirements.