

Biochar Carbon Credit Class

- Credit Class Review-

Internal R1

Ned Horning, Tica Lubin, Sam Bennetts

May 03, 2023

CONTENT referenced by reviewer's comment <i>e.g. Section number + paste exact text</i>	REVIEWER'S COMMENT <i>Please paste the comment from the reviewer</i>	AUTHOR'S RESPONSE <i>Please describe how the comment was addressed and include new content in quotations</i>	Reviewer's Conclusion [PASSED/ REJECTED WITH COMMENTS]
Methodology Appendix: In-Stand Surface Application of Biochar in Forestlands	[Sam] This link is broken	We are waiting to replace this link	
Definitions: Approved Activities.... for a given Credit Class.	[Tica] please do not capitalize credit class	Changed to "credit class"	Passed

Section 1: "For land stewards and biochar producers, the aim is to provide payment to incentivize adoption, and to simplify the data collection process and..."	<p><i>[Tica] put a comma and remove the and</i></p> <p><i>[Tica] add a comma before and</i></p>	These changes were made	Passed
Section 2: "The Biochar Carbon credit focuses on soil carbon sequestration and emission reductions"	<p>[Ned] I think of biochar as more of a storage benefit rather than sequestration which is related to the process of capturing carbon for storage. The tree does the sequestration and the pyrolysis processes the carbon for long-term storage.</p> <p>[Sam] +1 - I think i would classify it as carbon removal (CDR). Also are emission reductions happening here?</p>	<p>Changed to "The Biochar Carbon credit focuses on carbon removal and avoiding emissions that would have resulted from the decomposition of waste biomass"</p> <p>Changed to "carbon removal. One credit is equivalent to 1 metric tons of CO2e sequestered."</p>	Passed
3.1: "Biochar must be utilized in soil applications as outlined in the approved methodology or the accompanying appendix"	[Sam] This could benefit from added specificity on where biochar application can take place. So essentially answering the question, must be utilized in what context. Something like, "Biochar application must follow the soil application guidelines as outlined..."	Changed to "Biochar must be utilized in eligible soil applications including crop and grasslands as outlined in the approved methodology or the accompanying appendix for forest application."	Passed
Table 1: "Biochar should be applied as a unique soil amendment."	[Tica] is it fine to use "should" here or should it read "must" - will sequestration work correctly if this is not followed?	Changed to "must"	Passed

	[Howard] In legal parlance, "may" is permissive, "shall" mandatory, "must" non-discretionary, and "should" is ambiguous. In this context, it looks like "should" is directive and "can" permissive.		
4.2: "Aggregate Projects	[Ned] Not sure if this is necessary as an addition but want to make sure it's clear that aggregated projects should not be transporting biochar stock. In other words, pyrolysis must take place near where stock originated.	Added: e. For forest application, biomass feedstock should not be transported between different project sites but rather pyrolyzed on site.	Passed
4.2: "each project within the application."	[Tica] state here - "as per the approved methodology"?	Added "as per the approved methodology"	Passed
4.4: "Monitoring will be in the form of collecting attestations that the biochar application continues without disruption."	[Tica] Say here that frequency of reporting must be followed as outlined in the methodology	Added "The frequency of reporting must be followed as outlined in the approved methodology."	Passed
5.1: "Baselines can be calculated or assumed to be zero. Additionality must be calculated following the approved Methodology."	<p>[Ned] Is there guidance in the methodology on how to calculate baselines if they choose to not select the assumption choice?</p> <p>[Howard] Are you suggesting cross-referencing the underlying methodology and providing an exception process?</p>	<p>Changed to "Baselines can be calculated or assumed to be zero. These calculations are outlined in the approved methodology. Additionality must be calculated following the approved Methodology."</p> <p>I made some simplifying edits</p>	Passed
5.6: "Project proponents will provide a monitoring report to third party verifiers	[Tica] Please reword to say - The credit class administrator will ensure that verifiers meet requirements as outlined in the credit class.	Changed to "The credit class administrator will ensure that verifiers meet requirements as	Passed

deemed appropriate by Regen Registry.”		outlined in the credit class.” Added Verifier Requirements & Responsibilities Section	
6.2: “the Approved Methodology.”	<p>[Tica] sometimes you say the approved or just the Methodology and here the Approved Methodology - please be consistent in your referencing and does not need to be capitalized</p> <p>[Howard] This comment and a few others suggest that we make better use of the Definitions preceding the Introduction and scrub the document to make sure we are being consistent with using capitalization to indicate defined terms. Since we haven't defined either Methodology or Approved Methodology, this is a good opportunity to practice that document drafting hygiene.</p>	We have changed all references to the methodology to be “approved methodology” all lower case	Passed
Section 2.1: “This credit class applies to the ecosystem services of atmospheric regulation as defined in the RND Taxonomy. ¹ ”	[Sam] You could probably just remove this as you mentioned it in the paragraph above.	Removed section as suggested	Passed
Section 3.2 - Project Activity	[Sam] I think this section needs a bit more specificity on the activity-based eligibility criteria prospective projects must meet prior	Changed to; The project activity approved by this credit class is the production and application of	Passed

¹ [RND Taxonomy Document](#)

	<p>to project registration. In other words, if I had a biochar project I wanted to run using this credit class, what do I need to submit as proof that I am already following or intend to follow the approved practices defined in the methodology.</p>	<p>biochar to soils as defined in the approved Methodology.² For forest applications, appropriate activities are defined in the Methodology Appendix.³ Prior to project registration, prospective projects must meet the following eligibility requirements:</p> <ul style="list-style-type: none"> a. Provide a health and safety plan as outlined in section 4 of the approved methodology. b. Show documentation of land ownership or approval for project activities from land owners. c. The feedstock used cannot be purpose grown. The feedstock provider must provide a signed attestation detailing the fate of the biomass feedstock in the absence 	
--	--	--	--

² Approved Methodology. Section 4, pg. 8-11. Available at:

<https://verra.org/wp-content/uploads/2022/10/VM0044-Methodology-for-Biochar-v1.00.pdf>

³ Will add a link to the Appendix once published.

		<p>of the project activity, as outlined in Appendix 2 of the approved methodology.</p> <p>If these requirements are not adhered to, the project will be suspended until compliance is met.</p>	
Section 3.3 - Land Ownership Type	<p>I think this is ok, but you should include a little bit about what needs to be provided during registration to prove land ownership and rights to use the land, or (if applicable) the materials?</p> <p>Generally, you can just say something along the lines of, "This credit class accepts land ownership types of [x], provided the Project Proponent demonstrates adequate documentation for proof of ownership and/or approval of land owners.</p> <p>Since you're also distributing biochar, I'm assuming that you need permission from the land owner, or tennant, to apply the material on. If that's the case you will also need to document permission.</p>	<p>Changed to: This credit class accepts projects under public, private, and tribal ownership types, provided the Project Proponent demonstrates adequate documentation for proof of ownership and/or approval of land owners. Depending on the project, this may involve the feedstock provider and/or the land steward. In addition to individual ownership, these types may include collective or community based initiatives.</p> <p>Note further revisions with editorial suggestions to simplify.</p>	Passed

	Logistically, our team won't be checking land tenureship databases to verify that what you provide is indeed accurate (i.e. that someone owns the land or they have permission to use it), but we will check for completeness according to what's outlined in the Credit Class.		
Section 3.4 - Adoption Date	<p>[Sam] lookback registration should be reported. I'm assuming it should be reported as a part of the baseline report submitted in project registration? If so, just specify that. If otherwise, please specify.</p> <p>Also is there anything else which needs to be reported? If not that's fine, just making sure :)</p>	<p>Changed to: Adoption Date: Projects run under this credit class will accept an adoption date that goes back up to 1 year prior to Project Registration Date. In order to claim an Adoption Date before the Project Registration Date, the Project Proponent must provide sufficient historical records as outlined in the approved Methodology. Lookback registration must be included in the baseline report submitted as part of project registration.</p>	Passed
Section 3.5 - Crediting Term	<p>[Sam] Glad to see you landed on something! In terms of how this relates to project registration - my question is how you intend</p>	<p>Changed to: The crediting term for this credit class is 1 year. Per the approved methodology,</p>	Passed

	<p>to handle project renewal with such a short crediting term.</p> <p>The Registry Program Guide defines the crediting term as, “Crediting Term is the finite length of time for which a Project Plan is valid, and during which a project can generate credits” (Section 6.4). At the end of the crediting term, projects (typically) perform a final verification round (different from the one performed at the end of the permanence period). With that in mind, I would pose the following questions:</p> <ul style="list-style-type: none"> • What, if any, activities must project developers complete at the end of their crediting term? I’m assuming that in this scenario they really only need to submit the monitoring report. Is this correct? • What process do projects need to follow in order to renew a project? Do they need to resubmit all the documentation? Or can we build a system/program in which most of the base information stays the same and they only need to submit a subset of the documentation (such as the monitoring reports)? 	<p>biochar must be applied to soils within one year of production. At the end of the crediting term, project developers must submit the monitoring report. To renew a project, project developers must submit a new monitoring report.</p>	
--	--	--	--

	<p>Also as an aside, I would probably move this entire section to <i>Section 4. Project Rules and Regulations</i> and just include a section on project renewal if you do decide to include it and it makes sense to go in the eligibility section (a little fuzzy on my thoughts here without seeing it, but thinking it might make sense to have a section on “Eligibility Requirements for Renewal Projects” or something along those lines, but maybe we just include it in the renewal section below).</p>		
Section 3.3. - Regulatory Compliance	<p>[Sam] This is a section which doesn’t currently exist, but should.</p> <p>This section should specify any checks projects must go through to ensure that their implementation and ability to make carbon claims adhere to any local laws, regulations, and other legally binding mandates directly related to Project Activities and participation in voluntary carbon markets.</p> <p>You can either be specific with what these requirements are, or just state that the, “The Project Area has to adhere and provide attestation of compliance to the local</p>	<p>Added section 3.6 stating “The area where project activities occur has to adhere and provide attestation of compliance to the local laws, regulations, and other legally binding mandates as presented in the approved methodology”</p> <p>This paragraph was edited to streamline and focus the language.</p>	Passed

	laws, regulations, and other legally binding mandates directly related to Project Activities as presented in the Methodology.”		
Section 3.?. - Geographic Applicability	<p>[Sam] This is a section which doesn’t currently exist, and might not be needed, but is worth considering. “Geographic Applicability” indicates where in the world this credit class can be applied. My questions within the context of this Credit Class:</p> <ul style="list-style-type: none"> • Are there bioregions / countries where this credit class cannot be applied? • Is this specific to certain ecosystems? If so I would specify where this credit class can be used. 	We are opting not to add this section because we believe nothing in this document is specific to a particular bioregion. On the contrary, in writing we included language to make this as flexible as the approved methodology allows	Passed
Section 4.1 - Approved Methodology	This looks good, though it might be nice to specify that the Appendix should be used in conjunction with the main method if project developers intend to apply biochar as litter in forests (i.e. you will always need to use the Verra method, but in some cases can also use the Appendix).	Added: “This appendix must be used in conjunction with the approved methodologies.” Made minor editorial revision.	
Section 4.2 - Aggregate Projects	[Sam] I think this is great! In the aggregate project scenario, is the intent to have many project developers register as a single project? If so, does it make sense to outline how rewards are split? Also does this affect	Added “Must be approved and registered by a single Project Developer.” Added: “All projects must be	

	<p>at all the legal framing of land ownership/tenure or regulatory compliance? Also is the reporting process the same? Other questions to think about (which may or may not be applicable, but putting them here...):</p> <ul style="list-style-type: none"> • What are the applicability conditions do projects need to meet to become eligible for aggregate project registration? For instance, do properties need to be geographically located in the same bioregion • Are there specific requirements for how aggregate projects should prove applicability conditions and what needs to be reported during registration as part of the project plan? Also should participants make an additional agreement internally with one another about how they intend to work together, split rewards, etc...? • Do aggregate projects merit a different MRV process? If so, what? 	<p>within 200 km of all other projects included in aggregation”</p> <p>This distance reflects leakage calculations from the approved methodology</p> <p>I made a few minor editorial revisions to this section.</p>	
Section 4.3 - Project Plan	<p>[Sam] I think that this could actually be updated to specify the project plan we intend to use. Right now the registry has a project plan template we share, which if you would</p>	<p>Added footnote #12 with link to project plan: https://library.regen.network/v/regen-registry-program-guide/proje</p>	<p>Update this once if you edit the Project Plan</p>

	<p>like to use you can! However, it's just a template and there are parts which might not make sense for you to use, or sections you would like to update. If that's the case, I would encourage you to update those sections and create your own updated version and link it here. I think it's especially relevant to think about that in the context of how you intend to renew projects (as mentioned above).</p>	ct-development/project-registration/project-plan-template	<p>Template to better suit your needs - otherwise fine to leave as is</p>
Section 4.? - Project Renewal	<p>[Sam] You don't currently have this section, but should. As I mentioned in my comments earlier, the short crediting term implies that projects will have to reapply as a new project annually unless otherwise specified. Right now the Regen Registry Program Guide provides very general guidance on what renewal would look like, however it does not specify the process projects must follow on what to report or what approval for project renewal looks like. With that in mind, it would be great if you could specify what that looks like per my comments in the crediting term section above.</p>	<p>Added: "4.6Project Renewal</p> <p>"Any project registered under this credit class is eligible for renewal provided they:</p> <p>Met all monitoring, reporting, and verification requirements during the prior crediting term.</p> <p>Submit a document containing the following information:</p> <p>Any change from the prior year's project including feedstock, production type, measurement method, and project location.</p>	<p>Passed</p>

		Must meet all project aggregation requirements outlined in section 4.2”	
Section 5.2 - Leakage	<p>[Sam] This section looks good, but I would make a small tweak to provide a summary of the importance of leakage plays in this program such that readers (buyers, auditors, verifiers, etc...) can generally understand how it's addressed without digging into the method directly. Something like,</p> <p><i>“Leakage refers to the unintended or indirect consequences of a carbon offset project that lead to an increase in greenhouse gas (GHG) emissions outside of the project boundary. Leakage occurs when the implementation of a carbon offset project causes a reduction in emissions in one location, but leads to an increase in emissions in another location, either within or outside the project boundary.</i></p>	<p>Changed to: Leakage is required to be accounted for in this credit class as defined in the approved methodology.⁴ Leakage refers to the unintended or indirect consequences of a carbon offset project that lead to an increase in greenhouse gas (GHG) emissions outside of the project boundary. Leakage occurs when the implementation of a carbon offset project causes a reduction in emissions in one location, but leads to an increase in emissions in another location, either within or outside the project boundary.</p> <p>Leakage is required to be accounted for in this credit class.</p>	Passed

⁴ Approved Methodology. Section 8.3, pg. 30-32. Available at:
<https://verra.org/wp-content/uploads/2022/10/VM0044-Methodology-for-Biochar-v1.00.pdf>

	<p><i>Leakage is required to be accounted for in this credit class. Within the context of biochar production and application, leakage can occur when:</i></p> <ul style="list-style-type: none"> <i>[insert where leakage might occur as a result farmers adopting your program]</i> <p><i>The approved methodology outlines the process to estimate leakage emissions caused by projects registered under this credit class. To provide a conservative crediting estimate, leakage emissions are subtracted from the sequestration estimates.”</i></p>	<p>Within the context of biochar production and application, leakage can occur when:</p> <ol style="list-style-type: none"> Leakage emissions may occur during transportation and must be calculated per the approved methodology when: <ol style="list-style-type: none"> Biomass is transported >200 km to the production site Biochar is transported >200 km to the application site <p>The approved methodology outlines the process to estimate leakage emissions caused by projects registered under this</p>	
--	--	---	--

		credit class. To provide a conservative crediting estimate, leakage emissions are subtracted from the sequestration estimates.	
Section 5.4 - Permanence Approach	<p>[Sam] I think this section looks great! Though, I am curious how permanence is accounted for in the methodology and if it merits using a permanence pool? Reading through it, I noticed they use a permanence adjustment factor due to decay of biochar per end-use application. Does that mean they are calculating it so you don't need a permanence pool? If so then we probably would shift this section to speak more to the justification for why you don't need a pool. Otherwise, how is permanence determined at the end of the permanence period?</p> <p>In researching this, I would also recommend looking at what Puro does.</p>	<p>Changed to:</p> <p>This credit class does not require allocation to a permanence buffer. The permanence approach relies on the permanence adjustment factor used in the approved methodology. The permanence adjustment factor reflects a conservative estimate of the natural decay rate of biochar in soil applications such as in agriculture, forests, croplands, or grasslands.</p> <p>Biochar is subject to two permanence risks, both of which are considered minimal based on the eligibility requirements outlined in Section 8.4 of the approved methodology:</p> <ol style="list-style-type: none"> Implementation of activities that 	

		<p>reverse carbon dioxide removals</p> <p>b. Major climate events</p> <p>In the first case in which there is a reversal by the land steward to conventional activities that discussions do not resolve, then the land steward forfeits rights to future credits, and certificates in the buffer pool will be used to cover the gaps.</p>	
Section 5.5 - Buffer Pool	<p>[Sam] Great job on this section! I would just specify that for now, “...<i>the credit issuer will apply a contribution of 10% of each credit issuance to the Credit Class Buffer Pool.</i>” (p2, first sentence).</p> <p>You could also set up project specific buffers (i.e. the credits issued to that pool can only be used to cover losses by a specific project as opposed to having a pool which aggregates risk across projects).</p>	<p>Added:</p> <p>For all projects registered using this credit, the credit issuer will apply a contribution of 10% of each credit issuance (as quantified by the latest monitoring report) to the Credit Class Buffer Pool.</p>	
Section 5.5 - Verification	[Sam] In this section you should specify the	Added:	

Requirements	<p>requirements verifiers must follow to audit a monitoring report. I think this should contain two main elements:</p> <ul style="list-style-type: none"> • <u>Verifier Requirements</u>: Please specify the credentials verifiers must have. Do they need to have an ISO-14064 certification? If not, what credentials should they have? We specify in our Program Guide that they can have a range of certifications so just providing the specificity on what those requirements are in your context would be nice to share. During our previous conversations it sounded like you were leaning towards not requiring ISO accredited VVBs to audit the project due to cost, so maybe specify what the minimum viable credentials are. • <u>Verifier Responsibilities</u>: In this section you want to specify what type of audit the verifier should conduct (desk audit, field audit, or combination) and a list of specific things they should be checking for. We include a lot of this in the Regen 	<p>“Verifier Requirements: In addition to the KCT internal quality assurance, monitoring reports need to be audited by a third party verifier. Third party verifiers can be independent experts, consultant companies, Universities or NGOs with the following required credentials: Scientifically robust background on Soil Organic Carbon and agricultural GHG Quantification- Methodologies. Regional Knowledge. Peer Recognition. Declare no conflict of interest with the project, the monitoring and reporting process or KCT. Verifier Responsibilities: Initial review of the GHG documentation and methodologies. Desk verification of the following: Scope of calculations. Input data sets, any missing data, estimations and assumptions made.”</p>	
--------------	--	--	--

	<p>Registry Program Guide which you can reference (no need to copy/paste it all), but anything specific to your method/credit class should be specified. Note that the more specific you are, the easier it is for a verifier to understand their responsibilities which helps reduce cost (if they're changing hourly).</p>	<p>Calculation methodology and conversion factors used. Quality control procedures. Results & interpretation.</p>	
Section 5.7 - Fungibility	<p>[Sam] I would probably just add this paragraph to the buffer pool section, but just a suggestion. If it makes more sense to you to include it as its own section, do that!</p>	<p>Added to buffer pool section instead.</p>	