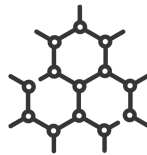


# Biochar Carbon Credit Class

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Ecosystem focus: Forests, Croplands, Grasslands



**Kulshan Carbon Trust**  
Building Alliances for Natural Climate Solutions

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## Disclaimer

This document has been prepared for informational and procedural purposes only. Its contents are not intended to constitute legal advice. Regen Network Development, Inc (RND) maintains the right to amend or depart from any procedure or practice referred to in this guideline as deemed necessary.

This document is intended to be used in combination with:

- *Approved Methodology:* [Methodology for Biochar Utilization in Soil and Non-Soil Applications](#)
- *Methodology Appendix:* [In-Stand Surface Application of Biochar in Forestlands](#)
- [Regen Registry Program Guide](#)

## Definitions

1. **Approved Activities:** the set of land management or conservation activities that are eligible activities for a given Credit Class.
2. **Monitor:** an individual or organization that is contracted to measure the benefits / indicators defined in a given Credit Class based on the requirements in the Approved Methodology.
3. **Verifier:** an individual or organization that is contracted to execute the verification requirements stipulated in a given Credit Class.
4. **Project Proponent:** the project developer or land steward that is applying to register a project on the registry.
5. **Project Developer:** the individual or organization that is in charge of managing the project and is the main point of contact with Regen Registry. The Project Developer can be the land steward or a third party.
6. **Land Steward:** the individual or organization that is performing the work on the ground. This can be a farmer, rancher, conservationist, forester, fisherman, etc.
7. **Land Owner:** the individual or organization that holds title to the land where the project is occurring. This can be the Land Steward or a third party that rents the land to the Land Steward.
8. **Biochar Producer:**
9. **Biochar Processor: Composter?**
10. **Project Registration Date:** the official date when a project commences.
11. **Project Plan:** the template that each project proponent fills out in order to register a project on the registry.
12. **Verification :** a systematic, independent, and documented assessment by a qualified and impartial third party of the benefits' assertions for a specific reporting period.
13. **Crediting Term:** the finite length of time for which a Project Plan is valid, and during which a project can generate credits.
14. **Project Activity:** the applied management or conservation practice that a project proponent is undertaking in order to improve the benefits tracked in a given Credit Class.
15. **Project Initial Monitoring Date:** the date when the baseline measurement was performed.
16. **Program Guide:** the main document specifying the rules and procedures of Regen Registry.

## Acronyms

- GHG - Greenhouse Gasses
- IPCC - Intergovernmental Panel on Climate Change (IPCC) is an intergovernmental body of the United Nations that is dedicated to providing the world with objective, scientific information relevant to understanding the scientific basis of the risk of human-induced climate change
- AFOLU - Agriculture, Forestry and Other Land Use; a category of carbon credit projects that related to agriculture, forestry and other land uses (e.g. conservation)
- RND - Regen Network Development, Inc., the entity developing and operating Regen Registry
- SDG - the UN Sustainable Development Goals

# 1. Introduction

Biochar is a carbon-rich, highly stable soil amendment produced when biomass is burned, or “pyrolyzed”, under low-oxygen conditions. Unlike other natural climate solutions, biochar does not replace a current practice, but is instead an alternative to other uses of biomass, such as open burning or decomposition. If applied at scale, Project Drawdown<sup>1</sup> estimates that biochar can reduce carbon dioxide emissions by 1.36-3.00 gigatons by 2050. In addition to its carbon sequestration potential, biochar provides many ecosystem service co-benefits including improved soil health.

The intent of this Credit Class is to provide incentive and a structure to significantly increase the production and application of biochar by providing biochar producers and land stewards with the necessary incentives to make this important work possible.

For buyers of this certificate, the aim is to provide a high-quality certificate that ensures that contributions are maximizing the removal and avoidance of emissions within the project, optimizing the flow of money to the biochar producer and land stewards that are implementing the activities, and ensuring the product delivers the quality it promises.

For land stewards and biochar producers, the aim is to provide payment to incentivize adoption, and to simplify the data collection process and monitor in an unobtrusive but comprehensive manner. By creating a high-quality certificate, the aim is to increase trust in the market to ensure stability and longevity of the market.

This Credit Class follows the requirements in the Program Guide. Each section below includes specific adaptations for this Credit Class.

## 2. Credit Class Overview

The Biochar Carbon credit focuses on soil carbon sequestration and emission reductions resulting from the production and application of biochar to soils. In the case of this credit, the approved benefit that is monitored, quantified and used to determine the quantity of credits issued is Carbon Sequestration.

### 2.1. Approved Indicator

The approved indicator defined in this credit class is soil organic carbon. The units of this credit are: one crediting unit equals 1 metric tons of CO<sub>2</sub>e sequestered.

The approved benefit of atmospheric regulation through carbon sequestration is driven by carbon removals and reductions through the production and application of biochar to soils.

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<sup>1</sup> <https://drawdown.org/solutions/biochar-production>

To ensure a net positive effect, aside from CO<sub>2</sub> removals from the atmosphere, it is also important to take into account significant GHG emissions directly resulting from the *project activity*. These should be accounted for each year to accurately calculate creditable carbon change. Emissions sources attributable to the *project activity* might include emissions from sourcing, production, or application of biochar as defined by the approved methodology.<sup>2</sup>

## 2.2. Ecosystem Service Classification

This Credit Class applies to the ecosystem services of atmospheric regulation as defined in the RND Taxonomy.<sup>3</sup>

# 3. Project Eligibility

## 3.1. Ecosystem Type Classification

This Credit Class applies to temperate forests and woodlands, croplands, and grasslands as defined in the RND Taxonomy.<sup>4</sup> Biochar must be utilized in soil applications as outlined in the Approved Methodology<sup>5</sup> or the accompanying appendix, “In-stand surface application of biochar in forestlands”,<sup>6</sup> for forest application.

Table 1. Highlights the appropriate application types and criteria suitable for each land type.

Ecosystem Type	Application Type	Other Criteria
Forest or Woodland	Surface level	Biochar should be applied as a unique soil amendment. <sup>7</sup>
	Subsurface level	Not recommended
Cropland	Surface level	Biochar should be mixed with other substrates.
	Subsurface level	Biochar can be mixed with other substrates or applied as a unique soil amendment

<sup>2</sup> approved Methodology. Section 5, pg. 12-14. Available at:

[https://verra.org/wp-content/uploads/2021/08/210803\\_VCS-Biochar-Methodology-v1.0-.pdf](https://verra.org/wp-content/uploads/2021/08/210803_VCS-Biochar-Methodology-v1.0-.pdf)

<sup>3</sup> RND Taxonomy Document

<sup>4</sup> RND Taxonomy Document

<sup>5</sup> Approved Methodology. Section 4. Eligible biochar end-use application criteria. Available at:

[https://verra.org/wp-content/uploads/2021/08/210803\\_VCS-Biochar-Methodology-v1.0-.pdf](https://verra.org/wp-content/uploads/2021/08/210803_VCS-Biochar-Methodology-v1.0-.pdf)

<sup>6</sup> Will add link to the Appendix once published.

<sup>7</sup> Appendix, Biochar Application in Forestlands. This document outlines the criteria and justification for producing and applying biochar to the soil surface in forestlands.

Grassland	Surface level	Biochar should be mixed with other substrates.
	Subsurface level	Biochar can be mixed with other substrates or applied as a unique soil amendment

### 3.2. Project Activity

The project activity approved by this credit class is the production and application of biochar to soils as defined in the approved Methodology.<sup>8</sup> For forest applications, appropriate activities are defined in the Methodology Appendix.<sup>9</sup>

### 3.3. Land Ownership Type

This credit class accepts projects under the following ownership types: public, private, tribal.

### 3.4. Adoption Date

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.<sup>10</sup>

### 3.5. Crediting Term

The crediting term for this credit class is 10 years with an option to renew. Each renewal period will be 10 years and there is no limit to the number of renewals.

The Crediting Term does not include the permanence obligation defined in Section 5.3.

## 4. Project Rules and Regulations

### 4.1. Approved Methodology

The approved methodologies for this Credit Class are:

<sup>8</sup> Approved Methodology. Section 4, pg. 8-11. Available at:

[https://verra.org/wp-content/uploads/2021/08/210803\\_VCS-Biochar-Methodology-v1.0-.pdf](https://verra.org/wp-content/uploads/2021/08/210803_VCS-Biochar-Methodology-v1.0-.pdf)

<sup>9</sup> Will add link to the Appendix once published.

<sup>10</sup> Approved Methodology. Section 6. Baseline Scenario: Step 2; providing evidence of fate of waste biomass. Available at:

[https://verra.org/wp-content/uploads/2021/08/210803\\_VCS-Biochar-Methodology-v1.0-.pdf](https://verra.org/wp-content/uploads/2021/08/210803_VCS-Biochar-Methodology-v1.0-.pdf)



- a. Methodology for the Utilization of Biochar in Soil and Non-Soil Applications<sup>11</sup>
- b. Appendix: In-Stand Surface Application of Biochar in Forestlands<sup>12</sup>

#### 4.2. Aggregate Projects

Aggregate Projects are permitted in this credit class. The intention behind aggregating projects is to overcome the high transaction costs that inhibit small landowners from accessing carbon markets. Aggregated projects must:

- a. Occur in the same ecosystem type
- b. Other requirements

For each group of Aggregated Projects the following points shall be summarized in the Aggregated Project Documentation:

- a. Standardized baseline scenario and emission calculations

This document shall be made available on the Project Page on the Regen Network website.

#### 4.3. Project Plan

Any project run using this Credit Class must have an aligned project plan.

#### 4.4. Monitoring Plan

As specified in the Primary Methodology,<sup>13</sup> a monitoring plan is required for each project. The relevant format of data collection is provided to the biochar producer, biochar processor, and land steward at the beginning of the reporting period and shall be completed by either the biochar producer, biochar processor, land steward or project proponent, or a combination thereof. Initial data collection shall be returned completed within one month.

Activity data and project emission data is collected on an annual basis. Collection will occur in a fixed month, that is set approximately one year after the project begins, as determined in conjunction with the land steward.

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<sup>11</sup> Approved Methodology. Available at:

[https://verra.org/wp-content/uploads/2021/08/210803\\_VCS-Biochar-Methodology-v1.0-.pdf](https://verra.org/wp-content/uploads/2021/08/210803_VCS-Biochar-Methodology-v1.0-.pdf)

<sup>12</sup> Will add link to the Appendix once published.

<sup>13</sup> Primary Methodology. Section 9, pg. 35-49. Available at:

[https://verra.org/wp-content/uploads/2021/08/210803\\_VCS-Biochar-Methodology-v1.0-.pdf](https://verra.org/wp-content/uploads/2021/08/210803_VCS-Biochar-Methodology-v1.0-.pdf)

#### 4.5. Monitoring Report

A monitoring report will be made available on an annual basis. This will include the following:

- a. Activities implemented in the previous year
- b. Total CO<sub>2</sub>eq removed and avoided in the previous year
- c. Satellite imagery to show activity implementation when appropriate.

The values documented in this report will be used as the basis for issuing credits.

In the case that activities have already been implemented prior to the project registration date, the first year of monitoring may be included in the Project Description.

### 5. GHG Removal and Emission Reduction Requirements

The credit class follows the GHG accounting requirements defined in the Program Guide.

#### 5.1. Additionality

Proof of additionality is required for this credit class.

Additionaltiy is required to be accounted for and specified in the approved Methodology in this credit class.

The approved Methodology specifies how the baseline and the additional carbon emission and/or removal is calculated.<sup>14</sup> Baselines can be calculated or assumed to be zero. Additionality must be calculated following the approved Methodology.

#### 5.2. Leakage

Leakage is required to be accounted for in this credit class as defined in the approved Methodology.<sup>15</sup>

#### 5.3. Permanence Period

This credit class requires a 25-year permanence period.

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<sup>14</sup> Approved Methodology. Section 8, pg. 16-34. Available at:  
[https://verra.org/wp-content/uploads/2021/08/210803\\_VCS-Biochar-Methodology-v1.0-.pd](https://verra.org/wp-content/uploads/2021/08/210803_VCS-Biochar-Methodology-v1.0-.pd)

<sup>15</sup> Approved Methodology. Section 8.3, pg. 30-32. Available at:  
[https://verra.org/wp-content/uploads/2021/08/210803\\_VCS-Biochar-Methodology-v1.0-.pd](https://verra.org/wp-content/uploads/2021/08/210803_VCS-Biochar-Methodology-v1.0-.pd)

#### 5.4. Permanence Approach

This credit class allocates an additional 5% of each credit issuance to cover the risks associated with permanence. These include but are not limited to:

- a. Implementation of activities that reverse carbon dioxide removals
- b. Major climate events

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 this buffer will be used to cover the gaps.

Certificates in the permanence buffer pool remain under the control of the project proponent and will not be returned to the land steward at the end of the project.

#### 5.5. Buffer Pool

A buffer pool is required for this credit class. The buffer pool required for this credit class is the default set by the program guide.<sup>16</sup>

The credit issuer will apply a default contribution of 20% of each credit issuance (as quantified by the latest monitoring report) to the Buffer Pool.

The project buffer pool is intended to smooth fluctuations that can occur during the project period. These include but are not limited to:

- a. Changes in model accuracy due to verifications
- b. Deviation by the land steward from planned activities
- c. Reversals in emission removals over the course of the project
- d. Unexpected weather events

In the case that the buffer certificates are not sufficient, a discussion will be had between relevant stakeholders to understand whether an improvement is expected in the upcoming year. If an agreement around this cannot be reached, the project may be canceled, the land steward forfeits rights to any additional income from certificates and the discrepancy in certificates must be covered by the Permanence Buffer. The conditions of this shall be outlined in the **legal agreement** between the Project Proponents and the land steward prior to the commencement of the project.

At the end of the project, certificates remaining in the project buffer pool may be issued and sold at the current market rate.

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<sup>16</sup> [Regen Registry Program Guide](#)

## 5.6. Verification

Verification is required for this credit class. Verification requirements for the measurement of the approved and secondary indicators are outlined in the approved Methodology.<sup>17,18</sup> Project proponents will provide monitoring report to approved third party verifier. Verifier will then create a separate verification report to be included in project documentation.

## 5.7. Fungibility

Both the permanence and buffer pool credit issuances are considered fungible over time based on the quantity of carbon dioxide they represent. They can be used to cover losses within projects developed by the project proponent.

# 6. Co-Benefits

Co-benefits are not included in this credit class. See *CarbonPlus Forests*<sup>19</sup> or *CarbonPlus Croplands*<sup>20</sup> for biochar credits that include co-benefits.

# 7. Issuing and Selling Credits

## 1.1. Credit Allocation

The carbon credits created in year one from biochar production (minus the credits dedicated to the buffer pools) will be issued to the biochar producer, after KCT has verified that the biochar has been appropriately applied to soil. After the final year of the project, if there are credits remaining in the project buffer, these credits will be issued to the land steward and may be sold at current market value.

## 1.2. Credit Distribution and Schedule

Certificates shall be sold after issuance ex-post as per the schedule defined below.

**Prior to project start:**

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<sup>17</sup> Approved Methodology. Section 9.3, pg. 47-49. Available at: [https://verra.org/wp-content/uploads/2021/08/210803\\_VCS-Biochar-Methodology-v1.0-.pdf](https://verra.org/wp-content/uploads/2021/08/210803_VCS-Biochar-Methodology-v1.0-.pdf)

<sup>18</sup> Program Guide. *Verification*, pg. 35-41. Available at: [Regen Registry Program Guide](#).

<sup>19</sup> Will add link to appendix

<sup>20</sup> Will add link to appendix

- a. Calculate the baseline CO<sub>2eq</sub> emissions from the data provided by the landowner in the project start year as specified in the Approved Methodology.<sup>21</sup> In lieu of documentation, the default baseline emission scenario for the project activity feedstock is zero, a conservative assumption.

**After each year:**

- a. Calculate the actual volume of carbon dioxide sequestered and greenhouse gas benefits of minus production and utilization from the previous year.
- b. Issue 5% of the certificates to the permanence buffer.
- c. Issue 15% of the certificates to the project buffer.
- d. Issue the remainder of the certificates to the biochar producer.

**End of Project**

- a. After the final year of the project, calculate actual volume of carbon dioxide sequestered and greenhouse gas benefits of production and utilization from the previous year.
- b. If there are certificates available in the project buffer, these certificates will be issued to the land steward and may be sold at the current market value.

## Metadata Breakdown

**Project Eligibility**

Ecosystem Type: *Grasslands, pastureland, shrubland*

NBS: *managed grazing*

approved Indicator: *soil organic carbon* ton of Co2

Number of Secondary Indicators: 3

Credit Unit: *1 metric ton CO2e*

Land Ownership Type: *public, private, tribal*

Adoption Date:

Crediting Term:

**Project Rules and Regulations:**

Approved Methodologies: *Methodology for the Utilization of Biochar in Soil and Non-soil Applications; Appendix: In-Stand Surface Application of Biochar in Forests*

Aggregate Projects: Permitted

Project Plan: Required [Insert link to project plan here]

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<sup>21</sup> Approved Methodology. Section 6, pg.15. Available at:  
[https://verra.org/wp-content/uploads/2021/08/210803\\_VCS-Biochar-Methodology-v1.0-.pdf](https://verra.org/wp-content/uploads/2021/08/210803_VCS-Biochar-Methodology-v1.0-.pdf)

**Co-benefits:**

Does not include co-benefits

**GHG Accounting:**

Additionality: Accounted for

Leakage: Accounted for

Permanence: Accounted for

**Verification**

Verification: Required