



VALIDATION REPORT for the Project Activity

Unyte Biochar

In

United Kingdom

Report No: CCIPL2313/RIVERSE/VAL/UNBR/20240604

Revision number: 1.0

Report Date: 03-09-2024

Carbon Check (India) Private Limited.

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(Uttar Pradesh) - 201301, India.

I. OFFSET PROJECT DATA

Project title:	Unyte Biochar
Applicable GHG scheme:	Riverse Standard
Agreed level of assurance and scope of validation:	Reasonable level of assurance
Host party/country:	United Kingdom
Project location:	Theddingworth
Methodology (Applicable GHG scheme):	BECCS and Biochar RIV-ENGY-02-PYGAS-V1.0, September 2023
Sectoral Scope/Technical Area	3. Biomass carbon removal and storage
Stakeholder Consultation commenting period:	From 10-06-2024 until the project is certified.
Validated Detailed Project Description DPD:	Unyte Biochar - DPD - Validation2024, Updated 02-09-2024
Average Riverse Carbon Credits:	Estimated: 6976 tCO _{2e} /year
GHG reducing measure/technology:	Conversion of biomass to biochar and utilization in construction material/asphalt for storage.

Party/Country	Project Developers/Client	Role	Contract party
United Kingdom	Jamie Bartley (Jamie@unyte.co.uk) - Unyte Hemp Ltd	Project Developer	<input checked="" type="checkbox"/>
France	Christophe Nourissier (christophe.nourissier@augur.associates) - Augur Associates	Registration Partner	<input type="checkbox"/>

II. VALIDATION TEAM (compliance of § 148e of VVS)

Validation Team			Role									
Full name	Affiliation	Appointed for Sectoral Scopes (Technical Areas)	Team leader	Acting/trainee Team Leader	Local Expert	Team Member	Technical Expert	Acting/Trainee Tech. Expert	Trainee Auditor	Technical Reviewer	Expert to TR	Trainee TR
Anubhav Dimri	CC IPL	3. Biomass carbon removal and storage	X				X					
Sawan Rawat	CC IPL	3. Biomass carbon							X			



		removal and storage											
Sanjay Kumar Agarwalla	CC IPL	3. Biomass carbon removal and storage										X	
Amit Anand	CC IPL	3. Biomass carbon removal and storage								X			

III. VALIDATION REPORT

Validation Phases and Status:

Desk Review Follow up interviews, On Site Assessment

Resolution of outstanding issues Corrective Actions / Clarifications Requested

Full Approval and Submission for registration or submission to client

Rejected or negative validation opinion

Final Approval Date	Approval	Distribution
<input checked="" type="checkbox"/>	By: Priya Suman, Compliance Officer	<input checked="" type="checkbox"/> No distribution without permission from the Client or responsible organizational unit
Date: 03-09-2024	<i>Priya Suman</i>	<input type="checkbox"/> Limited Distribution
		<input type="checkbox"/> Unrestricted distribution

Abbreviations

BAU	Business As Usual
CA	Corrective Action / Clarification Action
CAR	Corrective Action Request
CC IPL	Carbon Check (India) Private Ltd.
CL	Clarification Request
CO₂	Carbon Dioxide
CO₂eq	Carbon Dioxide Equivalent
COI	Conflict of Interest
DPD	Detailed Project Description
DVR	Draft Validation Report
EF	Emission Factor
FA	Final Approval
FAR	Forward Action Request
FVR	Final validation Report
GSC	Global Stakeholder Consultation
GHG	Greenhouse gas(es)
ICVCM	Integrity Council for Voluntary Carbon Market
IPCC	Intergovernmental Panel on Climate Change
ISO	International Organization for Standardization
KII	Key Impact Indicator
LCA	Life Cycle Assessment
MRR	Monthly Reading Records
OSV	On Site Visit
PD	Project Developer
QC/QA	Quality control/Quality assurance
RCC	Reverse Carbon Credit
SAB	Standard Advisory Board
TA	Technical Area
TAC	Technical Advisory Committee
TR	Technical Review
TRL	Technology Readiness Level
UN SDG	United Nations Sustainable Development Goals
VVB	Validation & Verification Body

Validation Opinion — summary

The Validation and Verification Body (VVB), Carbon Check (India) Private Ltd hereinafter referred to as CCIPL, has been appointed by Unyte Hemp Ltd to perform the validation of their offset project “Unyte Biochar “. The validation was performed based on the Reverse Standard. The scope of the validation is defined as an independent and objective review of the Detailed Project Description (DPD), the project’s baseline establishment and monitoring plan and other relevant documents. The information in these documents is reviewed against Reverse Standard.

The report is based on the assessment of the Detailed Project Description undertaken through stakeholder consultations, application of standard auditing techniques including but not limited to document reviews, site visit, and stakeholder interviews, review of the applicable/applied methodology and its underlying formulae and calculations.

The Validation team confirms the contractual relationship signed on the 24/06/2024 between the VVB, Carbon Check (India) Private Ltd and the Client, Unyte Hemp Ltd. The team assigned for the validation meets CCIPL’s internal procedures including the requirements of ISO 14065 for VVB’s team composition and competence. The validation team has conducted a thorough contract review as per ISO 14064^{B05/} and CCIPL’s procedures and requirements. The contract with client and CCIPL’s contract review process confirms the objectives, scope, criteria for validation and also confirms the level of assurance of the validation. The level of assurance for this validation is reasonable. The objective, scope and criteria are detailed below.

Validation methodology and process

The validation has been performed as described in or ISO 14064^{B05/} and constitutes the following steps:

- Conflict of interest review;
- Selection of validation team;
- Initial interaction/ Kick off call with the Client;
- Development of the validation plan;
- Publication of the Detailed Project Description on the Reverse Registry (10-06-2024) for 30-day Stakeholder consultation.
- Document review of data and information (Detailed Project Description and the relevant documents including the reference to information relating to projects or technologies similar to the proposed project activity and review based on the approved methodology being applied and of the appropriateness of formulae and accuracy of calculations).
- Cross checks between information provided in the Detailed Project Description and information from other sources.
- Follow up actions for cross checking data.
- Follow-up interaction with the client and other project personnel for supplemental information and corrective action as necessary; and
- Issuance of Validation Report after internal technical review.

Validation criteria

The following steps based on the requirements of the Procedures Manual, version 02^{B03/} were followed during the validation audit:

- Understanding project activities and Project Developer’s organization
- Familiarity with production’s physical flows
- Understanding the GHG quantification methods and sector-specific approaches
- Assessing Project Developer’s compliance with Reverse’s 14 eligibility criteria
- Ensuring use of a conservative LCA model for GHG reduction calculations
- Evaluating accuracy of input data in the calculation model
- Confirming annual carbon credit estimates for removal/avoidance.

The host party for the project activity is Unyte Biochar in the United Kingdom.

The project correctly applies the baseline and monitoring methodology (related to applicable GHG Scheme) RIV-ENGY-02-PYGAS-version 1.0, "BECCS and Biochar: Pyrolysis of biomass for bioenergy with carbon capture and storage"^{/B02/}.

The project is expected to lead to removals of 6,976 tCO₂eq emissions per year that are real, measurable and give long-term benefits to the mitigation of climate change. It is demonstrated that the project is not a likely baseline scenario. Carbon removals attributable to the project are hence additional to any that would occur in the absence of the project activity.

The DPD contains a monitoring plan for the monitoring of the carbon removals from the project. The monitoring arrangements described in the monitoring plan are feasible within the project design and it is CCIPL's opinion that the Project Developers are able to implement the monitoring plan.

The project activity by recycling its hemp product production waste and turning it into biochar and thus durably storing the biogenic carbon captured by the crop during its growth^{/02/}, will result in reductions of greenhouse gas (GHG) emissions that are real, measurable and provide long-term benefits to the mitigation of climate change. Overall, the project complies with the 12 general eligibility criteria described in section 4 of the Reverse Standard Rules, version 6.0^{/B01/}.

The total Reverse Carbon Credits from the project are estimated to be 34,880 t of CO₂eq over a 5-year crediting period, averaging 6,976 t of CO₂eq annually. The Reverse Carbon Credit forecast has been checked and it is deemed likely that the stated amount shall be achieved given the underlying assumptions do not alter.

The validation protocol describes a total of 21 findings which include:

- 0 Corrective Action Requests (CARs);
- 20 Clarification Requests (CLs);
- 1 Forward Action Requests (FARs);

All findings of the main report and the project have been closed satisfactorily: FAR(s) shall be checked during the 1st periodic verification of the project.

Carbon Check (India) Private Ltd. concludes the validation with a positive opinion that the offset Project Activity "Biochar production at Unyte Biochar" in the United Kingdom, as described in the Detailed Project Description^{/02/}, meets all applicable requirements, including those specified in the Reverse Standard Rules, version 6.0^{/B01/}, Reverse Procedures Manual, version 2^{/B03/}, relevant methodologies, tools and guidelines provided by the Reverse Standard.

The selected baseline and monitoring methodologies, BECCS and Biochar, Version 1.0^{/B02/} of the Reverse standard are applicable to the project and correctly applied. Carbon Check (India) Private Ltd therefore requests the registration of the project with requirements of the Reverse Standard.

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1. INTRODUCTION

The Project Developer Unyte Hemp Ltd has appointed the Carbon Check (India) Private Ltd. to perform an independent validation of the offset Project Activity “Biochar Production at Unyte Biochar” in the United Kingdom (hereafter referred to as “project activity”). This report summarises the findings of the validation of the project, performed on the basis of Reverse Standard Rules, version 6.0^{B01/} and the Reverse Procedures Manual, version 2.0^{B03/} of the Reverse Standard, as well as criteria given to provide for consistent project operations, monitoring and reporting. This report contains the findings and resolutions from the validation and a validation opinion.

1.1 Objective

The objective of validation is to provide an external evaluation to ensure that:

- the LCA methods employed are robust and accurate,
- that there is consistency in the primary data collected,
- and that the project adequately answers to all 14 criteria outlined by the Reverse Standard.

Validation seeks to guarantee the realness and authenticity of the project, ensuring that it genuinely contributes to the set objectives and is not merely a theoretical construct. This external validation provides an additional layer of credibility and trustworthiness to the entire process, ensuring stakeholders of the project's integrity and alignment with established requirements.

Validation provides a thorough and independent assessment of the proposed project activity against the requirements of the Reverse Standard, in particular, the project's monitoring plan and the project's compliance with the Reverse Standard. These are validated in order to confirm that the project design, as documented, is sound and reasonable and meets the identified criteria. Validation is a requirement for all offset projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of offset credits.

1.2 Scope

The validation scope is defined as an independent and objective review of the project design. The DPD is reviewed against the relevant criteria (see above) and decisions by the Standard Advisory Board of the Reverse Standard, including the approved baseline and monitoring methodology. The validation team has, based on the recommendations in the criteria Reverse Standard Rules, version 6.0^{B01/} and the Reverse Procedures Manual, version 2.0^{B03/} employed a risk-based approach, focusing on the identification of significant risks for project implementation and the generation of the Reverse Carbon Credits.

The validation is not meant to provide any consulting towards the Project Developers. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the project design.

While carrying out the validation, CCIPL determines if the project activity complies with the relevant requirement of the Reverse Standard Rules, version 6.0^{B01/}, the applicability conditions of the selected methodology, guidance issued by the Reverse Standard and also assesses the claims and assumptions made in the DPD without limitation on the information provided by the Project Developers.

2. METHODOLOGY

The following validation process is used based on the requirements of the Procedures Manual, version 02^{B03/} was followed during the validation audit:

- ✓ Understanding project activities and Project Developer's organization
- ✓ Familiarity with production's physical flows
- ✓ Understanding the GHG quantification methods and sector-specific approaches
- ✓ Assessing Project Developer's compliance with Riverse's 14 eligibility criteria
- ✓ Ensuring use of a conservative LCA model for GHG reduction calculations
- ✓ Evaluating accuracy of input data in the calculation model
- ✓ Confirming annual carbon credit estimates for removal/avoidance.

The validation process is utilized to evaluate whether the Project's approach, as outlined in the project design, is consistent with the Riverse Standard requirements and the BECCS and Biochar methodology^{B02/}. A validation checklist is developed for the Project which summarizes the criteria used to evaluate the Project's compliance with the riverse standard, the Project's conformance with each criterion, and the validation team's findings.

Conflict of Interest Review

Prior to beginning any validation project, CCIPL conducts an evaluation to identify any potential conflicts of interest associated with the project. If no potential conflicts are identified for the offset project, then CCIPL moves with the validation of offset project. This process is followed before issuing LoE to the client and the contract for validation is signed between CCIPL and the client.

Validation Team composition

CC IPL's Audit Team consisted of the following individuals who were selected based on their validation experience, as well as familiarity with applied technology: Anubhav Dimri – Team Leader, Sawan Rawat – Trainee Assessor. Validation team composition (along with background details/CV of team members) was communicated in LoE and also before start of validation. In case of any team change during validation, the same shall be communicated to the client and COI shall be re-assessed.

Audit Kick-off

The validation process was initiated with a kick-off conference call/meeting between VVB and the client. The meeting focused on confirming the validation scope, objectives, criteria, schedule, and the information required for the validation.

Desk Review

The validation team performed a desk review of the Detailed Project Description and supporting documentation.

- ✓ A review of data and information;
- ✓ Cross checks between information provided in project design and information from sources with all necessary means without limitations to the information provided by the project developer;

Clarification requests

- ✓ The validation team has requested CLs (supplemental information) during the validation process. The clarification requests and the responses provided by have been summarised in the validation protocol of this report.

Validation Reporting

- ✓ The resolution of outstanding issues and the issuance of the draft validation report and opinion and thereafter internal technical review before final decision on the validation.

The following sections outline each step in more detail.

2.1 Desk review

The following table outlines the documentation reviewed during the validation:

Ref no.	Reference Document
/01/	Webhosted DPD, 10-06-2024
/02/	Final DPD, 02-09-2024
/03/	LCA Results, 05-07-2024
/04/	Signed Site Registration Document, 05-02-2024
/05/	Application to the West Northamptonshire Council, 03-05-2024
/06/	GreenPower Pyrolyser offer, 05-04-2024
/07/	Unyte Biochar Project Timeline, 30-04-2024
/08/	Unyte Biochar Site information, 21-06-2024
/09/	Biomass policy statement, 21-06-2024
/10/	Fertilizing products documentation, 21-06-2024
/11/	Unyte Biochar Revenue Model, 09-08-2024
/12/	Unyte Biochar Revenue Estimates, 09-08-2024
/13/	Biochar Permanence Risk Evaluation, 21-06-2024
/14/	Unyte Hemp sales agreement, 13-06-2024
/15/	Additionality Evaluation, 12-08-2024
/16/	Clinker Avoidance, 21-06-2024
/17/	Confirmation letter for Biochar Use in Road Construction, 21-06-2024
/18/	Pyrolysis installation plan and characteristics, 17-06-2024
/19/	Brief description of the 6-chamber furnace for briquettes, 21-06-2024
/20/	Signed agreement with Welland Waste Management Ltd, 24-07-2024
/21/	Pre-Application 'Advice in Principle' from the West Northamptonshire Council, 14-08-2024
/22/	Countersigned contract between CCIPL and Unyte Hemp Ltd, 24-06-2024

2.2 Background documents:

Ref no.	Reference Document
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/B01/	Riverse - Standard rules V6 – May 2024 - Final
/B02/	Riverse - Methodology - BECCS and Biochar V1.0, September 2023
/B03/	Riverse - Procedures Manual V2 – May 2024
/B04/	<ul style="list-style-type: none"> • Woolf et al (2021) • Marrot, L., Candelier, K., Valette, J. et al. Valorization of Hemp Stalk Waste Through Thermochemical Conversion for Energy and Electrical Applications. Waste Biomass Valor 13, 2267–2285 (2022). https://doi.org/10.1007/s12649-021-01640-6 • Green Power Kiln Output (reference for carbon content of biochar) • Answers from the Riverse certification platform. <p>All other background documents, which has been used by the validation team to cross check the technical specification of the project activity, input parameters for the financial model, barriers.</p>
/B05/	ISO 14064

2.3 On site visit exclusion justification

According to the Riverse Procedures manual V2^{/B03/} physical on-site visits are only mandated for projects that issue more than 10,000 Riverse Carbon Credits annually. The project activity sequesters 6,976 tCO₂e/year, so it does not require a physical on-site visit.

The VVB has also received confirmation in an email correspondence with the Riverse team that a remote audit is also not required, since the project is still in design phase and (a) not yet operational and therefore (b) not yet issuing carbon credits. This will be conducted later, once the project site is established and once the project starts issuing credits/starts operations.

A FAR has also been raised, requesting a site visit to be performed during the first verification period.

2.4 Resolution of outstanding issues

The objective of this phase of the validation is to resolve any outstanding issues (issues that require further elaboration, research or expansion), which need be clarified prior to Carbon Check (India) Private Limited' conclusion opinion on the project design. In order to ensure transparency a validation protocol is customized for the project. The protocol shows the criteria/requirements, means of validation and the results from validating the identified criteria in a transparent manner.

The validation protocol serves the following purposes:

- It organizes, details and clarifies the requirements an offset project is expected to meet applicable to the GHG scheme;
- It ensures a transparent validation process where the validator will document how a particular requirement has been validated and the result of the validation.
- It ensures that the issues are accurately identified, formulated, discussed and concluded in the validation report.
- It ensures the determination of achieving credible carbon removals from the project activity.

The validation protocol consists of two tables. The completed validation protocol for this project is enclosed in Appendix A to this report.

Findings established during the validation can either be seen as a non-fulfillment of Riverse Standard criteria or where a risk to the fulfillment of project objectives is identified. Corrective action requests (CAR) are issued, where:

- ✓ The Project Developer/Project Developers have made mistakes that will influence the ability of the project activity to achieve real, measurable, verifiable and additional carbon removals;
- ✓ The applicable GHG scheme requirements have not been met;
- ✓ There is a risk that carbon removals cannot be monitored or calculated.

A request for clarification (CL) may be issued if information is insufficient or not clear enough to determine whether the applicable GHG scheme requirements have been met.

A forward action request (FAR) is raised during validation to highlight issues related to project implementation that require review during the first verification of the project activity. The FAR does not relate to the applicable GHG scheme requirements for registration.

The validation protocol consists of two tables. Table 1 reflects the eligibility requirements and reference to the description used to validate the project activity against those requirements, as well as means of validation, reference to Table 2 (i.e. table of findings) and preliminary and final opinion of the VVB on every particular requirement listed in table 1.

2.5 Internal quality control

The final validation report has passed a technical review and quality review before being submitted to the Project Developer and the Reverse registry. The technical review has been performed by a technical reviewer qualified in accordance with CCIPL's qualification scheme for offset project validation and verification.

2.6 Validation Team

Carbon Check has appointed a competent team as per the ISO 14065, the Reverse standard sectoral classification and Carbon Check internal procedures, the team is outlined below:

Validation Team			Type of Involvement					
Full name	Location	Appointed for Sectoral Scopes (Technical Areas)	Supervising the work	Desk review	Report and protocol Writing	Technical Expert Input	Reporting Support	Technical Reviewer
Anubhav Dimri	India	3. Biomass carbon removal and storage	X	X	X	X	X	
Sawan Rawat	India	3. Biomass carbon removal and storage		X	X		X	
Sanjay Kumar Agarwalla	India	3. Biomass carbon removal and storage				X(TE to TR)		
Amit Anand	India	3. Biomass carbon removal and storage						X

3. VALIDATION FINDINGS

The findings of the validation are stated in the following sections. The validation criteria (requirements), the means of validation and the results from validating the identified criteria are documented in more detail in the validation protocol in Appendix A.

4. DETAILED PROJECT DESCRIPTION/ PROJECT DESIGN:

The Detailed Project Description/project design is based on the currently valid DPD/project design template and is completed in accordance with the relevant forms and guidance.

Subject	Webhosted (initial) DPD/project design ^{/01/}	Validated DPD /project design ^{/02/}	Assessment
Offset Project title	Biochar production at Unyte Biochar	Biochar production at Unyte Biochar	<p>Based on the review of the initial DPD^{/01/} and the final validated DPD^{/02/}, VVB has determined that necessary changes have been made to the final DPD based on the clarifications raised by the VVB in the Validation Protocol Table 2, Appendix A.</p> <p>The DPD now satisfactorily fulfils the criteria laid down by the Reverse - Standard rules V6^{/B01/}, Reverse - Methodology - BECCS and Biochar V1.0^{/B02/}, Reverse - Procedures Manual V2^{/B03/}.</p>
Project location	United Kingdom	United Kingdom	
Offset Project technology including the capacity	The project activity aims to recycle its hemp product production waste by turning it into biochar, thus durably storing the biogenic carbon captured by the crop during its growth. According to the LCA Results the project will offset 7191.93 tCO ₂ e annually.	The project activity aims to recycle its hemp product production waste by turning it into biochar, thus durably storing the biogenic carbon captured by the crop during its growth. According to the LCA Results the project will offset 6,976 tCO ₂ e annually.	
Methodologies and tools applied (scope and version numbers) applicable GHG scheme	BECCS and Biochar Methodology V1.0 ^{/B02/}	BECCS and Biochar Methodology V1.0 ^{/B02/}	
Carbon removals calculations (formula applied/ amount of Reverse Carbon Credit s)	6,976 RCCs	6,976 RCCs	
Additionality: (Benchmark / input values/analysis type/project start date/IRR or NPV values etc. or barriers)	Regulatory analysis and a barrier analysis was provided by the PD. Insufficient IRR was found to be the main financial barrier.	<p>The barrier analysis was replaced with an investment analysis.</p> <p>The benchmark was a cross referencing the PD's talks with several investors (Removall, Vertree, Replant, WhyOffset, Capturiant, Invert...) and feedback from their Financial advisory board.</p> <p>For a 1.5 million investment, the revenue goal is 15,000,000 € in project revenue to attract investments. In the Unyte Biochar (no CCs) revenue estimate, the sole biochar revenue falls short of this threshold (7,786,000 € net) With about 6,300,000 € missing, the carbon credit sales revenue (5,045,833 € with credits sold at 100 €/t) allows the project to</p>	

		reach a profitability level that can attract early investors.	
GHG Monitoring (parameters / frequency)	<ul style="list-style-type: none"> Type and amount of feedstock inputs Amount of biochar sold in fresh matter Natural gas consumption Electricity consumption amount and type Biochar organic carbon and moisture content Updated barrier analysis showing that initial projections were reasonable Amount of clinker replaced by biochar 	<ul style="list-style-type: none"> Type and amount of feedstock inputs Amount of biochar sold in fresh matter Natural gas consumption Electricity consumption amount and type Biochar organic carbon and moisture content Updated barrier analysis showing that initial projections were reasonable Amount of clinker replaced by biochar 	
Crediting period (type / start date)	01-01-2025 to 31-12-2029	01-01-2025 to 31-12-2029	
Project Start date	01-01-2025	01-01-2025	
Party involved	Christophe Nourissier (christophe.nourissier@augur.associates) - Augur Associates	Christophe Nourissier (christophe.nourissier@augur.associates) - Augur Associates	
Project Developer/offset project operator	Jamie Bartley (Jamie@unyte.co.uk) - Unyte Group	Jamie Bartley (Jamie@unyte.co.uk) - Unyte Group	
<p>Please refer to Appendix A of this report for details of each change between webhosted (initial) DPD/project design and the final DPD/project design for submission. The Validation Team has carried out the validation process based on the Webhosted (initial) DPD/project design and raised CARs/CLs against the project by issuing the validation protocol.</p> <p>With the updated information and corrections done on final project design, the PP/client has addressed all the CARs /CLs that were raised by the Validation Team.</p>			

5. PROJECT DESCRIPTION:

Starting date of project	Expected project operational lifetime	Crediting period
01-01-2025	Conservative estimate taken as 5 years.	01-01-2025 to 31-12-2029

Unyte aims to recycle its hemp product production waste by turning it into biochar^{02/}. This operation of Unyte Hemp Ltd, i.e. Unyte Biochar, is settled in Theddingworth, United Kingdom. Unyte plans to utilize the Multi-Eco pyrolysing furnaces from Green Power Ltd for the production of high-quality biochar. The process of pyrolysis will be enhanced by compacting the biomass with a press line from Agrobio Bichet, which will create high-density briquettes and yield high-grade biochar^{19/}. Initially, Unyte will depend on the green waste from a local wood processing

facility and its existing hemp reserves. Eventually, it will also handle the hemp waste from its neighboring hempcrete plant.

The main advantage of biochar lies in its ability to retain the carbon that the plant has extracted from the atmospheric pool. This is in contrast to other methods such as outright combustion, natural decomposition, and various waste management alternatives, which result in the emission of CO₂ and other GHGs into the atmosphere. This process will not result in the export of any syngas or bio-oil. All the syngas/bio-oil produced shall be used to power the pyrolysis plant itself.

Unyte Biochar is in the process of finalizing an uptake agreement to sell the biochar and the associated carbon credits to a low-carbon construction material manufacturer to be used as a replacement for clinker and aggregate in cement and asphalt. No avoidance credits are currently being considered for this activity.

Carbon Check (India) Private Ltd validation team considers the project description of the project contained in the offset project design to be complete and accurate. Adherence to the eligibility criteria is established in validation protocol table 1, Appendix A. The LCA results provide accurate, transparent data and conservative estimates. The monitoring plan also includes all necessary Key Impact Indicators (KIIs) to be monitored. The offset project design complies with the relevant methodology, tools, forms and guidance at the time of offset project design submission for registration.

6. BASELINE AND MONITORING METHODOLOGY

6.1 Applicability of the selected methodology to the project activity

Approved baseline and monitoring methodology “BECCS and Biochar” (version 1.0)^{B02/} has been correctly quoted and applied for the proposed offset project activity, the validation team compared it with actual text of the applicable version of the methodology. At the time of GSP of the DPD methodology “BECCS and Biochar version 1.0”^{B02/} applied was the latest one.

The validation team determined the applicability of methodology BECCS and Biochar (version 1.0)^{B02/} as follows:

Applicability condition of the methodology (BECCS and Biochar), Version 1.0 ^{B02/}	Criteria fulfilled	Assessment by the validation team
This methodology, tailored to processes including pyrolysis and gasification, focuses on projects creating energy while simultaneously sequestering carbon in biochar (or bio-oil). Projects are usually optimized for producing one or the other, and either setup is eligible. (Current version: v1.0)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Based on the assessment of the project activity details provided in the DPD ^{02/} , VVB confirms that the project involves pyrolysis of biomass for biochar production and meets the applicability condition for the methodology.

The assessment of the project’s compliance with the applicability criteria of the methodology BECCS and Biochar (version 1.0)^{B02/} as documented in the offset project design, which are evaluated in detail under the validation protocol in Appendix A to this report based on the webhosted DPD/initial project design^{01/}. The validation teams have verified that the documentation content is correctly quoted and interpreted in the offset project design. Thus, the validation team confirms the applicability of the selected methodology to the proposed offset project activity.

6.1.1 Life Cycle Assessment LCA

Due to the absence of a comparable baseline scenario and the exclusive production of biochar, a comparative approach was not applied to this project. Consequently, the GHG reduction assessment solely addressed the project scenario, with carbon credit issuance reflecting the net negative emissions resulting from carbon removals attributed to biochar. A cradle-to-grave approach was used for the LCA, meaning that it considers all life cycle stages, from production to the end of life.

6.1.1.1 Functional Unit

A functional unit is the reference value to which all impacts are normalized. The project's main function is producing biochar. Therefore, the functional unit for the LCA is the production of 1 tonne of biochar and its application in producing low-carbon construction material. Thus the functional unit as determined for the project is in accordance with requirements of section 5.2.1 of Reverse Standard Rules (V6.0).

6.1.1.2 Assumptions

Key Assumptions:

- Waste feedstock inputs come with no impacts^{B02/}.
- Buildings and main infrastructure have a lifetime of 20 years, and the distribution network connection has a lifetime of 50 years^{B02/}.

Project Specific Assumptions:

- In the absence of primary data from the project developer on the composition of the pyrolysis machinery, conservative estimates were made. It was assumed to have a 5-year service lifetime and be composed of 50 tonnes of steel, which was 50% unalloyed and 50% low-alloyed^{02/}. These assumptions were deemed appropriate due to the low contribution of impacts from machinery, even though the most impactful reasonable scenario was assumed.

6.1.2 System Boundary

The system boundary as well as the sources and gases identified in the DPD are deemed to be appropriate by the VVB.

The system boundary defines which processes are included in the project scenario. An overview of the system is shown in the figure below, and details are provided in the following sections for the project scenario.

The scope of the LCA is cradle-to-grave, meaning that it considers all life cycle stages, from production to the end of life. The upstream limit of the system was the acquisition of feedstock inputs, and the downstream limit was the end of life of biochar through its application in producing low-carbon construction materials.

A more detailed description of each process has been provided in the project scenario section below.

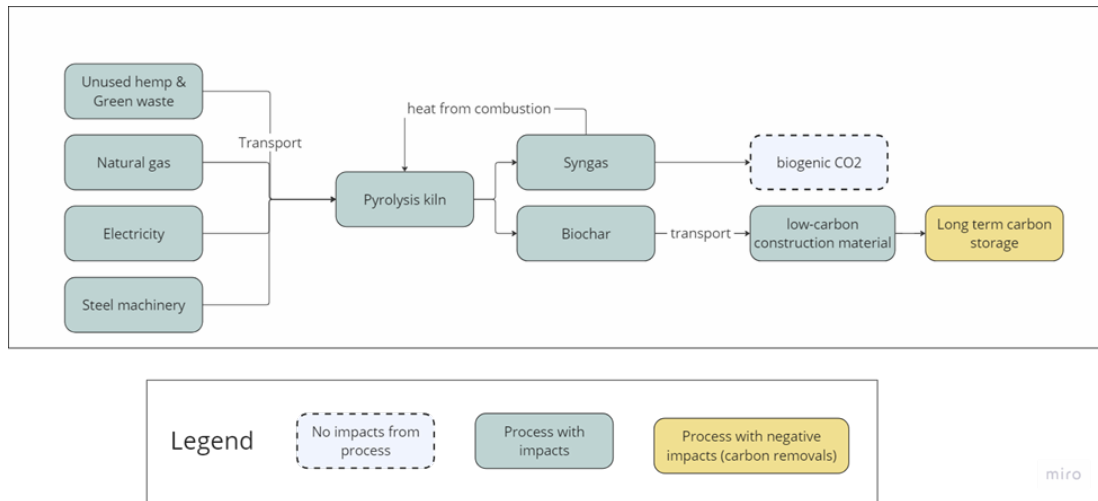


Figure 1: Detailed depiction of the system boundary

In summary, the project boundary was correctly identified in accordance with the methodology BECCS and Biochar (version 1.0)^{B02/}. All greenhouse gas emissions occurring within the proposed project activity boundary as a result of the implementation of the proposed offset project activity have been appropriately addressed in the offset project activity. The validation team confirms that all main GHG emission sources, the physical delineation of the project activity and other relevant project and baseline emission sources covered in the methodology are included in the system boundary.

According to the assessment of the VVB, the identified system boundary and selected sources of emissions are justified for the project activity.

6.1.3 Baseline Scenario Identification

As per the applied methodology BECCS and Biochar (version 1.0)^{B02/}, the validation team confirms that a typical baseline scenario cannot be defined for BECCS and biochar projects due to the diverse nature of their final products. No baseline scenario is considered for the biochar component, because it is assumed that biochar does not replace any product. Biochar has many uses and effects in the soil and can be related to mineral fertilizer or compost use but does not typically fully replace any product. Due to the uncertainty in choosing a baseline, the conservative approach is taken, and no avoided products are accounted for.

Information and proof needed from projects	Information and proof provided
Amount and type of final products	Biochar. Proof provided: <ul style="list-style-type: none"> • DPD^{02/} • Description of carbonization complex^{18/} ^{19/}
Description of the use of the product	Biochar is used to replace clinker in concrete production and aggregate in asphalt production. Proof provided: <ul style="list-style-type: none"> • Clinker Avoidance^{16/} • Confirmation letter for Biochar Use in Road Construction^{17/}
Transport distance and mode to place of use (if applicable)	0.47 km Proof provided: <ul style="list-style-type: none"> • LCA^{03/} • Unyte Biochar Site information^{08/}
Relevant characteristics of the product	<ul style="list-style-type: none"> • Feedstock type: Wood waste and agricultural hemp waste. • feedstock amount: 7000 tonnes

	<ul style="list-style-type: none"> • biochar fresh: 2352 tonnes • moisture content: 1.65% • organic carbon content: 90.2% Proof provided: <ul style="list-style-type: none"> • DPD^{/02/} • LCA^{/03/} • Marrot, L., Candelier, K., Valette, J. <i>et al.</i> Valorization of Hemp Stalk Waste Through Thermochemical Conversion for Energy and Electrical Applications. <i>Waste Biomass Valor</i> 13, 2267–2285 (2022). ^{/B04/} • Green Power Kiln Output^{/B04/}
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All the assumption and data used by the Project Developers are listed in the offset project design and/or supporting documents. The absence of a comparable baseline scenario has been justified appropriately, supported by evidence and can be deemed reasonable.

6.1.4 Project Scenario

The project scenario includes 4 life cycle stages:

1. Feedstock provisioning and transport
2. Pyrolysis
3. Biochar use in the production of low-carbon materials
4. Infrastructure and machinery

6.1.4.1 Feedstock provisioning and transport

The feedstock for the first year of production includes unused hemp from Unyte’s hemp storage facility and green waste from neighbouring wood processing plants in the ratio of 1:6. For the second year, the feedstock would consist of wood waste. In the third year of production specifically, additional hemp waste will be sourced from Unyte’s hemp-based construction facility to match the increased share of wood waste in a ratio of 1:1. The project plan is to further scale up the feedstock provisioning of hemp waste and green waste in a ratio of 1:3 in the fifth year of production^{/02/}.

These feedstock inputs are waste materials that would have been stored to decay, composted, disposed of or used for animal bedding, eventually releasing carbon in the atmosphere. Since they are waste products, they enter the project system boundary with no environmental impacts.

The transport distance averages 6 km and is almost 0.5 km for the first year. Emissions from truck transport of feedstock inputs to the pyrolysis site are included^{/02/}.

Information and proof needed from projects	Information and proof provided
Amount and type of each feedstock input	1 st year: Hemp and green waste from wood processing plant in ratio 1:6 2 nd year: Wood waste 3 rd year: Additional hemp waste to wood waste ratio 1:1 5 th year: Hemp waste to green waste in ratio 1:3 Proof provided: <ul style="list-style-type: none"> • DPD^{/02/} • Answers from the Reverse certification platform^{/B04/}
Average transport distance of each input	1 st year: 0.47km 5-year average: 6km

	Proof provided: <ul style="list-style-type: none"> • LCA^{/03/} • Unyte Biochar Site information^{/08/}
Energy used for preparing inputs	Diesel in feedstock provisioning. Proof provided: <ul style="list-style-type: none"> • LCA^{/03/} • Answers from the Reverse certification platform^{/B04/}

6.1.4.2 Pyrolysis

This stage consists of electricity consumed by 6 pyrolysis chambers and natural gas to launch the pyrolysis kiln. The feedstock is shredded using electricity and added to the pyrolysis machine, which is pyrolysed at 530 degrees Celsius for 10 minutes. Another by-product of this process is syngas which will be burnt to provide heat for the pyrolysis process^{/02/}.

Information and proof needed from projects	Information and proof provided
Amount and type of electricity used	Grid electricity: 1400676 kWh Proof provided: <ul style="list-style-type: none"> • LCA^{/03/} • Answers from the Reverse certification platform^{/B04/}
type and amount of energy used for starting the pyrolysis/gasification process	Natural gas: 300 litres. Proof provided: <ul style="list-style-type: none"> • LCA^{/03/} • Answers from the Reverse certification platform^{/B04/}

6.1.4.3 Biochar use in the production of low-carbon materials

This stage calculates the carbon sequestered over 100 years from adding biochar to the cement mix. It is assumed that the biochar addition to cement here will not decay or decompose, so no fraction of the stored carbon will be released. Therefore, the permanence factor of carbon removal from biochar is 100. This is because once biochar is immobilized in the inert concrete material, it is not exposed to the same biogeochemical processes as it is in soil, so no degradation is expected.

Packaging was excluded since the project does not expect to use any packaging and will sell directly to the uptaker.

Biochar is widely accepted to be a viable component of cement: "Biochar, as an additive in concrete and other applications, achieves long term carbon storage and significant emissions reduction compared to conventional materials.

From enhancing construction materials (Zhang et al., 2022) to reducing the carbon footprint of cement-based products (Suarez-Riera, Restuccia, Ferro, 2020), biochar potentially serves as a carbon-sequestering additive in cement mortar, contributing to both strength and sustainability (Gupta, Kua & Low, 2017). This capability enables buildings to function as carbon sinks (Zhang et al., 2022).^{/02/}

Information and proof needed from projects	Information and proof provided
amount and type of electricity and chemicals used	To be verified during first verification.
amount and type of other inputs and outputs (if applicable)	-
distance and mode of transport for delivery of final products	To be verified during first verification.

6.1.4.4 Infrastructure and machinery

The pyrolysis machine was assumed to weigh 50 tonnes, composed of half unalloyed steel and half low-alloyed steel. The assumed lifetime was 5 years. This was the largest and shortest-lived machine that could be reasonably estimated to obtain conservative estimates of reduced emissions. Still, this estimate accounted for small life-cycle impacts (about 1%), so it was unnecessary to refine this estimate further^{/02/}.

Information and proof needed from projects	Information and proof provided
Amount of steel, concrete, PVC HPDE, and other main materials used to construct the site and machinery	Reverse assumption: 50 tonnes of steel The exact quantity of metals, concrete and plastics to be determined in a machine report that shall be verified during the first verification. Proof provided: <ul style="list-style-type: none"> • DPD^{/02/} • Answers from the Reverse certification platform^{/B04/}
Service lifetime of machinery	5 years Proof provided: <ul style="list-style-type: none"> • DPD^{/02/} • Answers from the Reverse certification platform^{/B04/}

6.1.5 Algorithms and/or formulae used to determine carbon removal

The Validation team confirms that the steps taken, and the equations and parameters applied in the DPD/offset project design to calculate project emissions, baseline emissions and leakage and carbon removal comply with the requirements of the selected methodology including applicable tools.

The validation team confirm that all assumptions and data used by the Project Developer are listed in the offset project design (including their references and sources). All documentation used as a basis for assumptions and sources of data are confirmed as correctly quoted and interpreted in the offset project design. The values stated in the offset project design are considered reasonable and the baseline methodology and applicable tools have been correctly applied to calculate the Reverse Carbon Credits from the offset project activity.

6.1.6 Carbon Removals

In summary, the calculation of Reverse Carbon Credits was correctly demonstrated by the PD according to the methodology BECCS and Biochar (RIV-ENGY-02-PYGAS-V1.0)^{/B02/}. The table below summaries validation team's determination of Reverse Carbon Credits:

All assumptions made for estimating GHG are listed in the DPD	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	VVB has determined that all assumptions made for estimating GHG removals are listed in the DPD ^{/2/} along with their references and sources.
All data used by Project Developers is listed in the DPD	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Their references and sources are also listed in the DPD	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Data, formulas and parameters used are complete, accurate, transparent and conservative.
Formulas, parameters, values are complete, accurate, transparent and conservative	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	The BECCS and Biochar methodology ^{/B02/} has been applied correctly to calculate

All the references and documents used are correctly quoted and conservatively interpreted in the DPD	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	project emissions, leakage emissions and carbon removals.
Methodology has been applied correctly to calculate project emissions, baseline emissions, leakage emissions and carbon removals	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Baseline emissions have not been considered as the biochar does not replace any product. A cradle to grave Life cycle assessment approach has been applied by the PD.

Based on the calculations and results presented in the sections above the implementation of the project activity will result in an average ex-ante estimation of carbon removals conservatively calculated to be 6,976 tCO_{2e} per year for the selected crediting period.

All assumptions and data used by the Project Developers are listed in the offset project design and/or supporting documents, including their references and sources. All documentation used by the Project Developers as the basis for assumptions and source of data is correctly quoted and interpreted in the offset project design. All values used in the offset project design are considered reasonable and conservative in the context of the proposed project activity. The methodology has been applied correctly to calculate project emissions, leakage and carbon removals. All estimates of the project and leakage emissions can be replicated using the data and parameter values provided in the offset project design.

6.1.7 Additionality

The project refers to section C3 of the BECCS and Biochar methodology^{/B02/} to demonstrate additionality.

The Reverse Additionality Template^{/15/} has been filled out and provided to the VVB by the Project Developer. It contains:

- a regulatory surplus analysis, proving that the project's mitigation activities go beyond what is required by regulations, and
- investment analysis with a business plan proving that revenue from carbon finance is necessary to make the project investment a financially viable and interesting option, and carbon finance is crucial to ensuring the project can overcome financial hurdles and become a feasible investment option.

PD has also provided evidence in the form of Biomass policy statement^{/09/}, Fertilizing products documentation^{/10/}, Unyte Biochar Revenue Model^{/11/} and Unyte Biochar Revenue Estimates^{/12/} to support the claims made in the additionality evaluation document^{/15/}.

All issues and clarifications related to additionality have been resolved and Regulatory additionality and financial additionality has been established.

The validation team confirms the project activity is additional as claimed in the DPD^{/02/} and the Additionality evaluation document^{/15/}.

6.1.7.1 Regulatory Surplus Analysis:

The UK's Waste Directive limits biochar use by classifying biomass residues and biochar by-products as waste, except for certain natural agricultural and forestry materials. The Fertilising Products Regulation governs biochar by restricting feedstock types, contamination, and hazardous substances—still, no regulations mandating the use of leftover biomass for biochar production and its further usage. The project seeks carbon credits to fund necessary equipment and operations but struggles with insufficient IRR to attract investors in a crowded biochar market. The biochar market saw a sharp decline in demand and prices, with 2023 being particularly challenging. Revenue from carbon credits is essential to bridge the gap between biochar sales revenue and the investment needed to make the project viable and attractive to

investors. Without carbon credits, the project cannot meet investor demands, relying solely on insufficient biochar sales revenue^{/02/}.

VVB has reviewed the following documents for the assessment of regulatory surplus analysis:

1. Detailed Project Description^{/2/}
2. Reverse Additionality Template^{/15/}
3. Description of the regulatory environment concerning the project's mitigation activity.
4. Description of current and confirmed upcoming regulations or incentives that promote the project's solution.

Based on an overall review, the project has met the requirements of the regulatory surplus analysis in accordance with the §4.3.1 of the Reverse Standard Rules, version 06^{/B01/}.

6.1.7.2 Investment Analysis

An investment analysis has been provided including a business plan proving that revenue from carbon finance is necessary to make the project investment a financially viable and interesting option, and carbon finance is crucial to ensuring the project can overcome financial hurdles and become a feasible investment option^{/02/}.

VVB has reviewed the following documents for the assessment of investment analysis:

1. Detailed Project Description^{/02/}
2. Reverse Additionality Template^{/15/}
3. Unyte Biochar Revenue Model^{/11/} and Unyte Biochar Revenue Estimates^{/12/}
4. Description of the IRR requirements concerning the project activity.
5. Description of current and confirmed upcoming incentives that promote the project's solution.

Based on an overall review, the project has met the requirements of the investment analysis in accordance with the §4.3.2 and 4.3.3 of the Reverse Standard Rules, version 06^{/B01/}.

6.1.7.3 Barrier analysis

According to section 4.3 of the Reverse Standard V6.0^{/B01/}, either investment or barrier analysis is required to be done by the PD.

PD has opted to perform an investment analysis thus a barrier analysis is not required.

6.1.7.4 Conclusion of assessment of Additionality

The evidence were transparently reviewed by the validation team and considered to be appropriate. Regulatory analysis and investment analysis clearly demonstrate that the proposed project activity is financially unattractive. Therefore, the proposed project activity is not business-as-usual, i.e. the proposed project activity is additional.

6.1.8 Permanence and Risk of Reversal

The combination of hemp & wood waste will be pyrolysed to create biochar, which will be used in low-carbon construction materials. The project's commitment period for carbon removals is 100 years. The reversal risk assessment template^{/13/} has been completed by the Project Developer and shows that the project has no reversal risks with a high or very high-risk score (>10, considering the likelihood and severity of the risk).

No additional action is required from the Project Developer, and the default contribution of 3% of the project's verified removal credits shall be transferred to the buffer pool upon issuance^{/02/}.

VVB has assessed the reversal risk assessment^{/13/} provided the PD and finds the evidence and justification for a permanence of 100 years satisfactory.

6.1.9 No double counting

Double use of RCCs is prevented by the Reverse Registry, where RCCs are traced with a unique identification number from issuance to retirement, and an immutable certificate is generated upon retirement. **Double issuance of credits on multiple registries** is not allowed, as stated in the Reverse Standard Rules. By signing the Reverse MRV & Registry Terms & Conditions, Project Developers agree to not seek credit issuance for the same activity under a different standard for the same year.

The Project Developer has no previous issuance of carbon credits to disclose for the same mitigation activity under a different time period and a different crediting program. Moreover, double issuance of credits along the value chain will be prevented by the sales agreement terms that Unyte Hemp will share with the uptakers mentioning that carbon credits have already been issued for the mitigation activity and cannot be reissued, as required by the Reverse BECCS and Biochar methodology.

Several types of double claiming are outlined in the Reverse Double Counting Policy, and are described for the project below:

Double claiming with an NDC: There is no project requirements here because the project's RCCs will not be used towards a nationally determined contribution (NDC) or for a domestic climate mitigation target of a jurisdiction or nation other than the host country because the EU NDC scope does not cover engineered carbon removals such as carbon sequestration through biochar. Furthermore, the project's RCCs will not be used towards CORSIA.

Double claiming with national climate policies and emissions trading schemes: This is not applicable to the project activity because engineered carbon removals, such as carbon sequestration through biochar, are not covered by the EU ETS system.

Double claiming with other GHG-related environmental credits: This is not allowed, as stated in the Reverse Standard Rules. By signing the Reverse MRV & Registry Terms & Conditions, Project Developers agree to not seek credit issuance at the same time as another GHG-related environmental credit for the same project activity and time period.

Double Claiming of Emissions for Reporting Towards Voluntary Climate Pledges: Not applicable for this project^{/02/}.

Section C5-Unicity of the BECCS and Biochar methodology states:

"For carbon removal credits from biochar, projects must ensure that the user of biochar will not claim carbon credits. This can be done through a signed agreement between the biochar producer and farmers."

In this case an agreement between Unyte and the purchaser has been drafted which states:
"Sales of biochar produced by Unyte Hemp Ltd/Unyte Biochar do not give the Purchaser any rights to the carbon credits that are generated by its biochar production."

PD has also provided a signed agreement with Welland Waste Management Ltd stating that they will not be applying for carbon credits associated with the supplied feedstock.

Based on the assessment of the evidence mentioned above, VVB has determined that unicity has been satisfactorily established.

6.1.10 Substitution

As biochar production is not eligible for avoidance Reverse Carbon Credits (RCCs), this eligibility criterion is not assessed.

6.1.11 Leakage

The leakage risk from upstream and downstream emissions is estimated to be low because these emissions are included in the life-cycle-based GHG reduction quantification.

There is a risk of activity shifting leakage when biomass is used for feedstock inputs. This risk is estimated to be negligible for this project because the biomass used is a waste product and had no use before the project.

For year one, Unyte has a stock of hemp that is degrading. It cannot be processed as Unyte's building material plant has not been constructed yet. Plus, local and/or affordable alternatives for processing are scarce as the UK still implements a restrictive licensing system for hemp.

Hemp processing generates three direct hemp products: fibre, shiv and dust. While Unyte's construction material plant will use fibre to produce insulation mats and shiv to produce hempcrete, there is no use for hemp dust in construction (in the UK, it can be burnt for energy or used for animal bedding – in both cases re-emitting CO₂)

Unyte will be recuperating green waste from a wood processing plant next door from the biochar operation. The wood would have otherwise been burnt or sent to a landfill to rot as it is composed of bits and branches that are unfit for use. Therefore, the diversion of this biomass to the project does not affect the supply for other uses, and there is no risk of activity shifting^{/02/}.

PD claims there is negligible activity shifting leakage as the feedstock being used are waste products with no other use and the leakage risk from upstream and downstream emissions is managed by including these emissions in the LCA results^{/3/}.

VVB has determined these claims to be true by thorough assessment of the DPD^{/02/}, the LCA results^{/3/} and the answers in the Reverse certification platform^{/B04/}.

6.1.12 Technology Readiness Level (TRL)

The project has a TRL of 7- System model or prototype demonstration in an operational environment, as all units in the biochar production chain have been proven to be operational but have not been assembled on site yet. This meets the Reverse Standard Rules requirement of a TRL of at least 6. This TRL is justified by the detailed brochure provided by Green Power of their existing equipment and its operational characteristics.

Once commissioning is over, project TRL will be 9, as actual production will start to measure its carbon capture^{/02/}.

Based on the assessment of the detailed description of Green Power's Carbonization Complex^{/18/} and its operational characteristics^{/19/}, VVB has determined that this TRL is justified.

6.1.13 Targets alignment

According to the BECCS and Biochar methodology^{/B02/}, targets alignment is proven using a comparative life cycle assessment with the baseline scenario. As the project does not identify a baseline scenario or perform a comparative LCA, VVB has determined that this section does not apply to the project.

6.1.14 Minimum Impact

The project is expected to remove 6,796 tCO₂eq annually over the 5-year crediting period, according to the results of the GHG removal quantification. Since this surpasses the requirement in the Riverse Standard Rules of 1000 tCO₂eq, the project meets this eligibility criterion. VVB confirms this through a thorough assessment of the Life Cycle Assessment results^{/03/}.

6.2 Monitoring

The project GHG monitoring plan is in compliance with the Riverse BECCS and Biochar methodology (version 1.0)^{/B02/}. It is the VVB's opinion that the Project Developer is able to implement the monitoring plan.

6.2.1 Parameters determined ex-ante

The ex-ante parameters listed below have been provided in the "Fixed Parameters" sheet of the LCA results^{/03/}

Sl. No.	GHG monitoring Parameters	Description
1	Calculated_biochar_amount_dry	2313.192 tonnes, Dry biochar amount calculated using the formula: inputs_biochar_amount_fresh * (1 - inputs_moisture_content / 100)
2	Calculated_carbon_to_CO2	(44/12) = 3.666666667 Ratio based on the atomic weights of CO ₂ and Carbon.
3	Fixed_coir_density	Bulk density of coir 200 kg/m ³
4	Fixed_diesel_density	Density of diesel used in feedstock preparation 0.84 kg/m ³ .
5	Fixed_kg_diesel_per_hour	Diesel consumption per hour 24.78 kg/hour.
6	Fixed_machine_lifetime	5 years is taken as the conservative estimated lifetime of the equipment.
7	Fixed_peat_density	Bulk density of peat 150 kg/m ³
8	Emission factors <ul style="list-style-type: none"> transport, freight, lorry 3.5-7.5 metric ton, EURO5 wood chipping, terrain chipper, diesel market for electricity, low voltage market for natural gas, low pressure metal working, average for steel product manufacturing market for steel, low-alloyed 	Emission factors from the <i>ecoinvent-3.9.1-cutoff</i> database.



	<ul style="list-style-type: none">• market for steel, unalloyed	
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The validation team confirms that all relevant parameters have been sufficiently considered and the values of the parameters are real, measurable and conservative.

6.2.2 Parameters monitored ex-post

List of Key Impact Indicators (KIIs) to audit:

Criteria	Indicator	Sources	Frequency
C1 - Measurability	Type and amount of feedstock inputs	Bill, receipt or contract with biomass provider of the quantity of biomass actually used	Annually, at the beginning of the year
C1 - Measurability	Amount of biochar sold in fresh matter	Bills, receipts production records, or sales records of biochar	Annually, at the beginning of the year
C1 - Measurability	Natural gas consumption	Receipts of annual propane purchases	Annually, at the beginning of the year
C1 - Measurability	Electricity consumption amount and type	Electricity bills from the pyrolysis site	Annually, at the beginning of the year
C1 - Measurability	Biochar organic carbon and moisture content	Laboratory chemical analyses of biochar	Annually, at the beginning of the year
C3 - Additionality	Updated barrier analysis showing that initial projections were reasonable	Biochar selling projections & current data	Annually, at the beginning of the year
C6 - Co benefits	Amount of clinker replaced by biochar	Production records, and process records followed to create clinker	Once, during verification

In summary, the validation team is convinced of compliance of the monitoring plan with the requirements of the BECCS and Biochar methodology (version 1.0)^{B02/}.

6.2.3 Sampling Protocol

No sampling protocol was applied as part of the validation activities.

7. MANAGEMENT SYSTEM AND QUALITY ASSURANCE

Based on the evaluation of the Key Impact Indicators (KIIs) to be monitored, VVB has determined that all parameters of importance for controlling and reporting of project performance are incorporated in the monitoring plan

A clarification was raised (CL8) regarding the frequency of the monitoring activities which was satisfactorily justified by the PD.

8. SUSTAINABLE DEVELOPMENT GOALS (CO-BENEFITS)

The project contributes to the following United Nations Sustainable Development Goals (UN SDGs).



Goal 12.2: Achieve the sustainable management and efficient use of natural resources

By placing value on resources that might otherwise be discarded as waste, Unyte Biochar facilitates the reintegration of these residues into production. The project contributes to this SDG by using waste materials such as hemp waste and green waste for effective waste management and reductions in emissions and overall waste^{/02/}.

The performance indicator of this SDG is the amount of waste taken up by the project, and for 2024 its value is estimated at 1 ton/carbon credit^{/02/}.

VVB finds that the project sufficiently contributes to the SDG Goal 12.2: “Achieve the sustainable management and efficient use of natural resources” and finds PD’s justification for choosing the goal appropriate.



SDG 13.2: Integrate climate change measures into national policies, strategies and planning

Cement production is energy-intensive and emits the most due to its clinker production process. In Europe, the emissions of clinker production are around 880 kg CO₂ per ton¹. However, the project plans to substitute clinker with biochar to reduce these emissions. This emission avoidance is considered a co-benefit because it is not being issued Avoidance Reverse

Carbon Credits and is not included in the GHG reduction quantification below^{/02/}.

Hence, the performance indicator of this SDG is the amount of avoided CO₂ emissions; for 2024, its value is estimated at 880 kgCO₂/ton of biochar produced^{/02/}.

VVB finds that the project sufficiently contributes to the SDG Goal 13.2: “Integrate climate change measures into national policies, strategies and planning” and finds PD’s justification for choosing the goal appropriate.

According to the Reverse Standard Rules V6.0^{/B01/}, projects must provide at least 2 co-benefits from SDG goals framework. Based on the review of section 3.6 “Co-benefits” of the provided DPD, VVB has determined that the project meets this criterion.

9. ENVIRONMENTAL AND SOCIAL DO NO HARM SAFEGUARDS

¹ <https://www.vie-publique.fr/en-bref/289347-production-de-ciment-le-cout-de-la-decarbonation>

Stakeholder consultation:

According to the Reverse standard rules V6 section 3.3.6, the stakeholder consultation is to be conducted in parallel to the validation.

This is conducted online through the Reverse Registry for 30 days during the validation phase. However, the project is open for public consultation on the Reverse platform.

Risk assessment:

The Risk Assessment Template^{/13/} has been completed by the project developer for the project activity based on the details listed in section C8 of the methodology BECCS and biochar-V1.0^{/B02/}. A complete assessment of each of the problem items is provided below:

Problem	Impact	Severity	VVB Assessment
Heavy metal or other pollutants in biochar applied to agricultural soils	Localized human health and ecotoxicity impacts	Major	The biochar is not being used in soil amendment but instead used to replace clinker in concrete and asphalt production, so this risk does not apply to the project activity. This has been assessed by the VVB by reviewing the DPD ^{/02/} , Unyte biochar sales agreement ^{/14/} , Clinker Avoidance ^{/16/} , Confirmation letter for Biochar Use in Road Construction ^{/17/}
Use of dedicated crops, competition for food and agricultural land.	Local and far-off land use change	Major	The project activity uses degrading hemp waste and wood waste as feedstock for biochar production. This has been assessed by the VVB by reviewing the DPD ^{/02/} and the sales agreement with Welland Waste Management Ltd. ^{/20/}
Deforestation from use of forestry products as feedstock	Local and far-off land use change	Major	Direct forest products are not used as feedstock. Only hemp and wood waste is used as feedstock for biochar production. This has been assessed by the VVB by reviewing the DPD ^{/02/} and the sales agreement with Welland Waste Management Ltd. ^{/20/}
Distant transport of feedstock inputs	GHG emissions and climate change impact	Moderate	Average distance for the first year will be 0.47km. The furthest Hemp plant from which feedstock will be sourced is 15km away from site. This will be monitored annually and accounted for in the LCA ^{/03/} . CL6 was raised regarding the average distance of feedstock input and was satisfactorily justified by the PD.
Pollutants emitted to the air during gasification/pyrolysis (particulate matter,	Human health impacts	Minor	Risk has been accounted for in the risk assessment template ^{/13/} . Biochar production with the bio-furnace does not release chemicals and the same has been

nitrogen oxides, sulfur compounds...)			assessed by the VVB by reviewing the description of pyrolysis complex ^{/18/} .
Contaminated gasification/pyrolysis residue and ash, improper waste management	Human health and ecotoxicity impacts	Minor	Risk has been accounted for in the risk assessment template ^{/13/} . Biochar production with the bio-furnace does not release chemicals and the same has been assessed by the VVB by reviewing the description of pyrolysis complex ^{/18/} .
Collection and export of organic matter from agricultural fields for gasification/ pyrolysis disrupts soil organic matter	Damage to soil health	Major	<p>Hemp has proven positive effects on soil health & carbon capture. This is due to the fact that about 50% of hemp's root biomass is located within 40 inches of the topsoil. Roots represent about 20% of total hemp biomass. In hemp cultivation, roots are not collected and stay in the ground. They therefore add soil organic carbon to the soil after the harvest as they decompose. As hemp doesn't require tilling, this carbon stays in the ground^{/13/}.</p> <p>Additionally, the feedstock used is the co-product of a hempcrete and hemp fibre production plant. Waste does not drive the harvest - the main products do, so there isn't any excessive harvest link to the reuse of hemp waste^{/13/}.</p> <p>The same has been assessed by the VVB by reviewing the risk assessment template^{/13/} and the source provided for the hemp root biomass claim by the PD.</p>

The validation team concludes that in accordance with section 4.8 of the Reverse standard rules V6^{/B01/}, the environmental impact by the project activity has been evaluated in the ESDNH evaluation sheet of the Biochar risk evaluation document^{t/13/} by the Project Developer and the same is stated in the DPD^{/2/} and the Biochar risk evaluation document^{t/13/}. It is the validation team's opinion that all risks have been sufficiently identified and appropriate likelihoods and severities have been assigned to the risks and the project activity does not cause the adverse environmental impacts and there are no regulations or requirement by the host country to conduct the EIA for the project activity.

When the project starts operations, it must provide laboratory chemical analyses proving that their biochar is below the pollutant thresholds presented in Table 4 of the BECCS & Biochar methodology^{/B02/}. This shall be assessed during the first verification phase.

10. STAKEHOLDER CONSULTATION

Requirements		VVB assessment
Whether Stakeholder Consultation conducted?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	The Stakeholder consultation is done online through the Reverse Registry in parallel with the validation phase. Though it was to be open for a 30-day period, VVB has confirmed through e-mail correspondence with the Reverse team that the consultation will stay open until the project is certified.
Does the project have a legal permit?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	VVB confirms that the PD has received an acknowledgement ^{05/} and pre-application advice ^{21/} from the West Northamptonshire Council regarding the installation of the pyrolysis machinery.
Whether template letter sent to relevant local communities and stakeholders during the validation phase?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	VVB confirms that the PD has sent an application to the West Northamptonshire Council and received an acknowledgement ^{05/} from the council regarding the same.
Template letter translated to local language?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	VVB confirms that a translation to local language was not required as the local language is English.
Local stakeholders made aware of the project's intentions, potential impacts, and the avenues through which they can express their opinions?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Based on a thorough review of the application, acknowledgement ^{05/} and pre-application advice ^{21/} from the West Northamptonshire Council, VVB confirms that all relevant details regarding the project have been shared with the stakeholders.
Does the stakeholder consultation gather feedback on the environmental and social impacts of the project, among other feedback.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Based on a thorough review of the pre-application advice ^{21/} from the West Northamptonshire Council, VVB confirms that the environmental and social impacts of the project have been acknowledged by the stakeholders.
Dates of Stakeholder Consultation:	From 10-06-2024 till the project is certified.	VVB has confirmed through e-mail correspondence with the Reverse team that the consultation started with the validation audit and will stay open until it is complete.
Location of Stakeholder Consultation:	Open consultation on the Reverse Registry	The Stakeholder consultation is done online through the Reverse Registry in parallel with the validation phase. According to It was to be open for a 30-day period, VVB has received confirmation that the consultation will stay open till the end of the validation audit.
Number of Comments:	0	VVB has confirmed through e-mail correspondence with the PD and the Reverse team that no public comments were received during the stakeholder consultation period.

Carbon Check considers the local stakeholder consultation carried out adequately. The Project Developers have taken due account of all comments received by the stakeholders and its summary is described in the DPD adequately.



Carbon
— CHECK —

ISO_FM 4.9 Riverse Validation Report

Revision: June 2024

APPENDIX A

Carbon Check
offset project Validation Protocol

Biochar production at Unyte Biochar in United Kingdom

Report No. CCIPL2313/RIVERSE/VAL/UNBR/20240604

Validation Protocol Table 1: Project Eligibility Criteria checklist

Eligibility Criteria	Description and requirements of meeting the eligibility criteria.	Reference	VVB Assessment
C1 - Measurability	<p>The project developer shall prove that the project removes GHG emissions through a comparative Life Cycle Assessment (LCA)^{/3/}.</p> <p>If the project makes biochar and is eligible for carbon removal credits, the carbon sequestered over 100 years must be calculated and included in the LCA^{/3/}.</p> <p>The LCA^{/3/} should follow the method described in the Life Cycle Assessment section of BECCS and Biochar methodology^{/B02/}.</p>	<p><i>Life Cycle Assessment (LCA)^{/03/}</i></p> <p><i>DPD^{/02/}</i></p>	<p>Through a thorough assessment of the LCA report and the monitoring plan, VVB has determined that the LCA meets all the requirements and the list of proposed Key Impact Indicators (KIIs) is appropriate.</p> <p>Any questions regarding LCA have been satisfactorily answered by the PD.</p>
C2 - Real	<p>Projects must prove that they exist and operate as claimed, or are being developed and will begin operations within 2 years of certification.</p> <p>This may be proven by receipts from sales of products, such as biochar or the final products from syngas and bio-oil.</p> <p>For pre-financing of projects, proof may include contracts or receipts from the purchase of key machinery.</p>	<p><i>Unyte Biochar-Sites registration^{/04/}</i></p>	<p>As the project is still in design phase, Unyte Biochar's Site registration document and GreenPower's offer regarding sale of pyrolysis equipment has been assessed by the VVB to validate this eligibility criterion. A site visit shall be performed during the 1st verification phase as well. A FAR has also been raised regarding the site visit. Implementation of monitoring plan and KIIs shall also be verified during the 1st verification phase.</p>

<p>C3 - Additionality</p>	<p>All projects must demonstrate their Regulatory Additionality, plus either financial or prevalence additionality.</p> <p><u>Regulatory additionality:</u> Projects must prove that their activities are not already mandated by regulation, even if there are relevant regulations that cover the project type. This is to ensure that the project would not have been implemented regardless of issuance of carbon credits.</p> <p><u>Financial additionality:</u> Projects must prove that they are in financial need, and that revenue from carbon credits would not go towards enriching project developers. Projects may prove that they:</p> <ul style="list-style-type: none"> • are operating at a financial loss and need additional funding. • are operating and seeking funding to implement improvements in their technology. • are raising funds to develop a new site and need additional funding 	<p>Regulatory additionality:</p> <ul style="list-style-type: none"> • Biomass policy statement^{/09/} • EU fertilizing products regulation^{/10/} <p>Financial additionality:</p> <ul style="list-style-type: none"> • Investment Analysis^{/15/} 	<p>Based on the review of the evidence provided by the PD and the updated <i>Additionality_evaluation</i>^{/15/} and <i>BiocharUnyteMulti-EcoofftakeSHARED</i>^{/11/} documents, VVB has determined that the PD has provided satisfactory Regulatory and Investment analyses.</p> <p>All issues and clarifications raised on this criterion have been resolved and Regulatory additionality and Financial additionality have been established.</p>
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<p>C4 - Permanence</p>	<p>The project must demonstrate permanence by proving that the carbon shall remain sequestered for over 100 years to qualify as long-term carbon storage and be eligible for carbon removal credits.</p> <p>Permanence is ensured by measuring characteristics of biochar that are known indicators of carbon stability: organic carbon and hydrogen content. These must be measured in laboratory chemical analyses. To ensure a sufficient level of carbon storage, biochar must have a ratio of molar hydrogen to organic carbon of less than 0.7.</p> <p>Models proposed by Woolf et al (2021)^{B04/} are used to calculate the amount of long-term⁶ carbon storage from biochar. Hydrogen and organic carbon content, along with soil temperature, are used to calculate the amount of carbon stored in the soil after 100 years.</p> <p>This criterion is proven using results from laboratory chemical analyses of a project's biochar, and a description of the biochar sampling procedure.</p>	<p><i>Biochar_risk_evaluation-Unyte Biochar^{13/}</i></p>	<p>The reversal risks have been evaluated in the permanence evaluation sheet of the Biochar risk evaluation file^{13/} provided by the PD. VVB has determined that all risks have been sufficiently identified and appropriate likelihoods and severities have been assigned to the risks thus demonstrating permanence.</p>
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<p>C5 - Unicity</p>	<p>Carbon credits must only be counted once. They must not be 1) double counted by being issued in multiple registries, or 2) claimed by both the credit seller and buyer.</p> <p>Additionally, for carbon removal credits from biochar, projects must ensure that the user of biochar will not claim carbon credits. This can be done through a signed agreement between the biochar producer and farmers.</p>	<p><i>UnyteHemp-BiocharSalesAgreement^{14/}</i></p> <p><i>Supply of Green Waste Oversize for Bio Char Feedstock – signed^{18/}</i></p>	<p>Section C5-Unicity of the BECCS and Biochar methodology^{B02/} states:</p> <p><i>“ For carbon removal credits from biochar, projects must ensure that the user of biochar will not claim carbon credits. This can be done through a signed agreement between the biochar producer and farmers.”</i></p> <p>In this case an agreement^{14/} between Unyte and the purchaser has been drafted which states:</p> <p><i>“Sales of biochar produced by Unyte Hemp Ltd/Unyte Biochar do not give the Purchaser any rights to the carbon credits that are generated by its biochar production.”</i></p> <p>PD has also provided a signed agreement with Welland Waste Management Ltd^{20/} stating that they will not be applying for carbon credits associated with the supplied feedstock.</p> <p>Based on the assessment of the evidence mentioned above, VVB has determined that unicity has been established and the criterion is satisfactorily met.</p>
<p>C6 - Co-benefits</p>	<p>Projects must provide at least 2 co-benefits from the UN Sustainable Development Goals (SDG) framework.</p>	<p><i>DPD^{2/}</i></p>	<p>Based on a thorough review of the DPD^{2/} project has satisfactorily provided 2 co-benefits that align with the project.</p>
<p>C7 - Substitution</p>	<p>Projects must prove that the final products from syngas and bio-oil are appropriate substitutes for the materials they claim to avoid. This can include heat, electricity, steam, chemicals, and many others.</p>	<p><i>N/A</i></p>	<p>Since the project is claiming removal credits and not avoidance credits, this eligibility criterion does not apply.</p>

<p>C8 - Environmental & social do no harm</p>	<p>Projects must not contribute to environmental or social damage.</p> <ul style="list-style-type: none"> Evaluate the risk type, likelihood, and severity the project poses for each UN SDG, or other relevant sustainability indicator. Action plan to prevent/manage any substantial risks. 		<p>According to the Reverse standard rules V6^{B01/} section 3.3.6, the stakeholder consultation is to be conducted in parallel to the validation. This is conducted online through the Reverse Registry for one month during the validation phase. It is under public consultation on the Reverse platform.</p> <p>In accordance with section 4.8 of the Reverse standard rules V6^{B01/}, Environmental and social risks have been evaluated in the ESDNH evaluation sheet of the Biochar risk evaluation file provided by the PD. VVB has determined that all risks have been sufficiently identified and appropriate likelihoods and severities have been assigned to the risks.</p>
<p>C9 - Leakage</p>	<p>The project's avoided GHG emissions should not be indirectly transferred elsewhere.</p> <p>There is a risk that if the fossil-based energy displaced by bioenergy is sold and consumed elsewhere, the net emissions reduction thanks to bioenergy may be offset by increased emissions in those other locations. This risk is valid and is outside the scope of Reverse's and projects' intervention.</p> <p>There is a risk that feedstock inputs may be cultivated in distant areas and imported to the bioenergy site. In this sense, impacts from cultivating feedstocks are shifted to other locations. This risk is managed because transport of feedstock inputs to the biogas site is included in the LCA to calculate carbon credits.</p>	<p>N/A</p>	<p>Since the project is claiming removal credits and not avoidance credits, this eligibility criterion does not apply.</p>

<p>C10 - Rebound effects</p>	<p>The risk here is that energy efficiency and sustainability improvements from bioenergy (compared to fossil-based energy) leads to an increase in overall energy consumption, thereby offsetting some of the initial energy savings. This may occur due to, for example:</p> <ul style="list-style-type: none"> • lower energy prices lead to higher total consumption of energy • reduced environmental impacts and improved perception of bioenergy lead to increased consumption, as consumers no longer avoid high-emitting fossil fuel-based energy • lower energy prices allow for cost-saving on energy consumption, which may then be reinvested into other carbon-emitting goods and services 	<p>N/A</p>	<p>Rebound effects apply to projects that produce bio-energy. The project only produces biochar and no excess bio-energy and the VVB has determined the same through the assessment of the DPD^{2/} and supporting documents.</p>
<p>C11 - Technology Readiness Level</p>	<p>Projects must prove that they have a Technology Readiness Level (TRL) of 6 or higher, meaning that the technology has been demonstrated in a relevant environment.</p> <p>For BECCS and biochar projects that are already operating, this may be proved using receipts from sales of products, such as biochar or the final products from syngas and bio-oil, to show that they have a TRL 9 (actual system proven in operational environment).</p> <p>For projects under development, this may be proved as above during the verification phase.</p> <p>For innovative projects under development, this can be proven using results or files from earlier research stages or prototypes, or proof of purchase of machinery that is proven to work in similar applications.</p>	<p><i>Detailed description of Green Power's Carbonization Complex^{/18/, /19/}</i></p> <p><i>Green Power offer for development of the Carbonization complex dated April 5, 2024^{/6/}</i></p>	<p>PD has claimed a TRL of 7 so the project meets the requirement.</p> <p>Based on the assessment of the detailed description of Green Power's Carbonization Complex^{/18/} and its operational characteristics^{/19/}, VVB has determined that this TRL is justified.</p>

C12 - Targets alignment	As energy sector projects, BECCS and biochar projects must prove that they lead to at least a 40% reduction in GHG emissions compared to the baseline scenario, as defined in the Reverse Standard Rules.	N/A	Since the project is claiming removal credits and not avoidance credits, this eligibility criterion does not apply.
C13 - Minimum impact	Projects must justify at least 1000 tCO ₂ e avoided over the 5-year crediting period.	<i>Life Cycle Assessment (LCA)</i> ^{3/} <i>DPD</i>	The project removes 34880 tCO ₂ e over the duration of the crediting period. This value surpasses the standard's requirement of 1000 tCO ₂ e by a significant margin. This has been assessed by the VVB by reviewing the Life Cycle Assessment results ^{3/} .
C14 - Independently validated	Project's LCA, Detailed Project Description (DPD) and Monitoring Plan must be audited by a third-party auditor.	<i>Life Cycle Assessment (LCA)</i> ^{3/} <i>Detailed Project Description (DPD)</i> ^{1/} <i>Monitoring Plan</i>	This project was audited and validated by Anubhav Dimri and Sawan Rawat in August, 2024.

Validation Protocol Table-2: List of findings

CL	01	Section	Measurability	Date: 03/07/2024
Description of CL				
PD is requested to clarify the use of diesel in LCA calculations for feedstock provisioning.				
Project developer response				Date: 08/07/2024
Diesel is considered in chipping, for calculating emissions from feedstock processing (shredding, drying...).				
For this, we consider the ecoinvent process "wood chipping, terrain chipper, diesel", which accounts for 1 productive machine hour (PMS) - referring to the operational time of the machine.				
Documentation provided by project developer				
<i>Life Cycle Assessment</i>				
VVB assessment				Date: 08/07/2024
PD has provided a satisfactory clarification for the use of diesel in the LCA calculations.				
Finding is closed.				

CL	02	Section	Measurability	Date: 03/07/2024
Description of CL				
<p>"PD is also requested to provide sources of emission factors used in LCA calculations and the values used for the references in the "Ecoinvent activities" tab of the LCA results.</p> <ul style="list-style-type: none"> • transport, freight, lorry 3.5-7.5 metric ton, EURO5 • wood chipping, terrain chipper, diesel • market for electricity, low voltage • market for natural gas, low pressure • metal working, average for steel product manufacturing • market for steel, low-alloyed • market for steel, unalloyed" 				
Project developer response				Date: 08/07/2024
<p>"The source is Ecoinvent 9.3.1. Emission factors are presented below:</p> <ul style="list-style-type: none"> • transport, freight, lorry 3.5-7.5 metric ton, EURO5: 5.5603e-1 kgCO2eq/t.km • wood chipping, terrain chipper, diesel: 1.2612e+2 kgCO2eq/h • market for electricity, low voltage: 2.7900e-1 kgCO2eq/kWh • market for natural gas, low pressure: 8.1983e-1 kgCO2eq/m3 • metal working, average for steel product manufacturing: 1.6532e+0 kgCO2eq/kg • market for steel, low-alloyed: 2.1819e+0 kgCO2eq/kg • market for steel, unalloyed: 1.7969e+0 kgCO2eq/kg" 				
Documentation provided by project developer				
-				
VVB assessment				Date: 08/07/2024
The required emission factors have been satisfactorily provided by the PD.				
Finding is closed.				

CL	03	Section	Measurability	Date: 03/07/2024
Description of CL				
<p>PD is requested to clarify why the contribution of natural gas is calculated as 0 during the pyrolysis phase in the LCA results, when 300 litres of natural gas is being used to start the pyrolysis process.</p>				
Project developer response				Date: 08/07/2024
<p>"We account for 0.3m³ of natural gas per month, which emission factor of 8.1983e-1, thus: 2.95kgCO₂eq or 0.0025tCO₂eq</p> <p>As the model extract table results are in tCO₂eq, this value is very low to be shown there, but it is being accounted for"</p>				
Documentation provided by project developer				
<i>Life Cycle Assessment</i>				
VVB assessment				Date: 08/07/2024
<p>PD has provided a satisfactory clarification for calculating the contribution of natural gas as zero in the LCA calculations.</p>				
Finding is closed.				

CL	04	Section	Measurability	Date: 03/07/2024
Description of CL				
<p>"It is unclear if the energy requirement for shredding and compaction of feedstock into briquettes has been added to LCA.</p> <p>PD is requested to clarify and provide more detail about the feedstock pre-treatment and preparation processes during the feedstock provisioning life cycle stage."</p>				
Project developer response				Date: 08/07/2024
<p>All the impacts related to energy requirements are considered in the LCA, in P2 (Pyrolysis), for more working days that the plant will probably have (check the answer to question 7).</p>				

Documentation provided by project developer			
<i>Life Cycle Assessment</i>			
VVB assessment			Date: 08/07 /2024
<p>Since the answers to question #4 and #6 have been updated, the values for inputs_electricity_kWh and for P2. Pyrolysis/Gasification should also be updated in LCA.</p> <p>PD is requested to update the values in the LCA accordingly.</p>			
Project developer response			Date: 17/07/2024
<p>All impacts from electricity use are already included in the current LCA calculations. As mentioned in our response to question 7, we have taken a conservative approach by overestimating the project's electricity consumption. We assumed the project would operate continuously (30 days a month).</p> <p>This approach increases the project's emissions and subsequently reduces the avoided emissions, resulting in more conservative values.</p>			
VVB assessment			Date: 17/07/2024
<p>Based on the assessment of the LCA calculations and answers to questions #4 and #6 on the Riverse platform, VVB has determined that conservative values have been taken for electricity consumption.</p> <p>Finding is closed.</p>			
CL	05	Section	Measurability
Date: 03/07/2024			
Description of CL			
<p>Input value of 1.65% moisture content is selected. The reference cited provides a range of 1.65–2.50%.</p> <p>PD is requested to justify the value selected as conservative.</p>			
Project developer response			Date: 08/07/2024

This project will use two types of feedstock to produce biochar: hemp and wood. According to the provided reference, biochar produced from wood has ~1.58% moisture, while biochar produced from hemp has ~1.65% moisture. In a conservative approach, we considered the highest moisture content, even if wood represents the biggest feedstock shares.

Documentation provided by project developer
Life Cycle Assessment
VVB assessment
Date: 08/07/2024

PD has provided a satisfactory clarification for the selected moisture content value being conservative.

Finding is closed.

CL	06	Section	Measurability	Date:
				03/07/2024

Description of CL

Feedstock transport distance is taken as 0.47 km. This value is calculated using the feedstock ratio of the first year where hemp and wood waste are used in a ratio of 1:6. However, in subsequent years, as the ratio of feedstock changes, the average transport distance would also increase. Yet the average transport distance of the first year (0.47km) is being used to calculate impact of feedstock provisioning through the entire crediting period.

PD is requested to justify the value of average transport distance for the first year being used for the duration of the entire crediting period."

Project developer response
Date: 08/07/2024

As the project will be verified every year for the crediting period, the transport distances will change for each year (also mentioned in the monitoring plan). To make it accurate for year 1, 0.47 km is considered.

Documentation provided by project developer
Life Cycle Assessment
VVB assessment
Date: 08/07/2024

PD has provided a satisfactory clarification for the selected average distance value.

Finding is closed.

CL	07	Section	Measurability	Date: 03/07/2024
Description of CL				
<p>"Assuming the pyrolyser is stopped for 5 days per month for maintenance, the energy consumption would be $E = 21.65 \times (24 \times 25 \times 12) = 155\,880$ kWh"</p> <p>This calculation assumes each month has 30 days.</p> <p>PD is requested to justify the calculated value of energy consumption.</p> <p>Eg. $E = 21.65 \times 24 \times (365 - 12 \times 5) = 158\,478$ kWh"</p>				
Project developer response				Date: 08/07/2024
<p>"The validation considers the potential carbon credits the biochar production will be able to generate. The plant is expected to run 24/7 and stop 5 days per month for maintenance. This is accounted for in the biochar output (less biochar produced as we account for non-working days), but not in the electricity consumption (which considers more electricity than the plant will actually consume) .</p> <p>Accounting full-time electricity use is a conservative approach as all the impacts related to energy requirements are considered in the LCA, in P2 (Pyrolysis), for more working days that the plant will probably have.</p> <p>Thus, total days in a month are considered 30 to adjust for other lesser days. "</p>				
Documentation provided by project developer				
<i>Question #6 on the Reverse Impact certification platform.</i>				
VVB assessment				Date: 08/07/2024

PD has updated the answer for #6 and provided a satisfactory clarification for the energy consumption value being conservative.

Finding is closed.

CL	08	Section	Measurability	Date: 11/07/2024
Description of CL				
Monitoring plan section of the DPD mentions all the KIs shall be monitored annually, at the beginning of the year. PD is requested to justify why this monitoring frequency was chosen over a batch-wise monitoring approach.				
Project developer response				Date: 17/07/2024
According to the Riverse Standard, the Monitoring serves as an ongoing measurement of indicators to determine whether the project delivers the expected carbon removal/avoidance. Additionally, according to the Riverse Standard, the KIs must be uploaded to the Impact Certification Platform at least once per year.				
Yearly monitoring reduces the amount of work for both Riverse and the PD. It also aligns with yearly carbon credit sales cycles.				
Documentation provided by project developer				
<i>Monitoring Plan, DPD</i>				
VVB assessment				Date: 17/07/2024
PD has provided a satisfactory justification for the selected monitoring approach.				
Finding is closed.				

CL	09	Section	Double Counting	Date: 11/07/2024
Description of CL				
Since over 6000 tons of green waste is being purchased from neighbouring wood processing plants for feedstock provisioning, PD is requested to provide a sales agreement for the purchase of the wood waste stating that the seller shall not claim carbon credits for waste sold for biochar production as well.				

Project developer response		Date: 17/07/2024		
<p>We don't have a signed contract yet. Nevertheless, we'll try to get a letter of Intent that should be sent in the coming days</p> <p>Update: 24/07/2024</p> <p>We have now received the proof for the waste supply, which you can find here.</p>				
Documentation provided by project developer				
<i>Supply of Green Waste Oversize for Bio Char Feedstock – signed</i>				
VVB assessment		Date: 17/07/2024		
<p>PD has provided a signed agreement with Welland Waste Management Ltd stating that they will not be applying for carbon credits associated with the supplied feedstock.</p> <p>Finding is closed.</p>				
CL	10	Section	Additionality	Date: 11/07/2024
Description of CL				
<p>Regulatory surplus analysis section of the Additionality evaluation report missing PD's response for "Confirmed upcoming national-level regulations related to the technology (within 5 years)" as per the Additionality template.</p> <p>PD is requested to fill the missing section in the additionality evaluation report or provide a justification for its omission.</p>				
Project developer response				Date: 17/07/2024
<p>There is no mention of any regulation in the making by the UK gov. The field is now complete</p>				
Documentation provided by project developer				
<i>Updated Additionality evaluation report.</i>				

VVB assessment	Date: 17/07/2024
<p>The missing section in the additionality evaluation report has been added by the PD.</p> <p>Finding is closed.</p>	

CL	11	Section	Additionality	Date: 11/07/2024
Description of CL				
<p>A barrier analysis has been provided in the Additionality evaluation report but the barrier type has not been identified. PD is also requested to justify why a barrier analysis was conducted instead of an investment analysis when the main issue is described as an insufficient IRR.</p>				
Project developer response				Date: 17/07/2024
<p>We agree the investment analysis is more aligned with this project's goals. The document was changed to gather investment analysis instead of barrier analysis.</p>				
Documentation provided by project developer				
<i>Updated Additionality evaluation report.</i>				
VVB assessment				Date: 17/07/2024
<p>PD has updated the Additionality evaluation report and have now added the investment analysis instead of a barrier analysis. Based on the review of the Investment analysis, VVB has raised multiple issues listed below individually.</p> <p>PD is also requested to update additionality section of the DPD as it still mentions a barrier analysis instead of an investment analysis.</p>				
Project developer response				Date: 12/08/2024
<p>thank you for this remark. I added a comment in the changed section</p>				
Documentation provided by project developer				
<i>Updated DPD</i>				

VVB assessment	Date: 12/08/2024
Based on the review of the updated DPD, VVB confirms that the necessary changes have been made to the additionality section of the DPD.	
CL 11 is closed. Refer to CL15-20 for further clarifications regarding the Investment analysis.	

CL	12	Section	Additionality	Date:	11/07/2024
Description of CL					
In the Additionlity evaluation template, PD has claimed that "No government subsidy is available for this project." but the VVB has found government grants such as "Direct air capture and greenhouse gas removal programme" which includes grants for biochar projects. PD is requested to identify if any other grants/subsidies apply to this project and justify why this project does not qualify for those grants/subsidies.					
Project developer response				Date: 17/07/2024	
The PD missed the application window for subsidies (here)					
Documentation provided by project developer					
<i>application window for subsidies.png</i>					
VVB assessment				Date: 17/07/2024	
PD has provided a satisfactory clarification for missing their application for relevant grants/subsidies in the additionality evaluation report.					
Finding is closed.					

CL	13	Section	Co-benefits	Date:	11/07/2024
Description of CL					

4 co-benefits are listed in the answer to Q#25, while only 2 co-benefits are listed in the DPD and LCA results. PD is requested to justify the discrepancy between the answer to question 25 and the information provided in the DPD and LCA results.

PD is also requested to provide a timeline and an update regarding the stakeholder consultation proceedings.

Project developer response
Date: 17/07/2024

About the co-benefits, Reverse usually considers the two most precise and justifiable data. According to the standard, we shall report at least 2 co-benefits.

About the timeline and an update regarding the stakeholder consultation proceedings: anyone can send questions through the Reverse platform for 30 days from the project registration. Additionally, the project selected two stakeholders to which communication about the project was made as presented [here](#).

Documentation provided by project developer

DPD

Question #25 on the Impact certification platform.

VVB assessment
Date: 17/07/2024

PD has provided a satisfactory clarification regarding the selected co-benefits and updated the VVB regarding the stakeholder consultation.

Finding is closed.

CL

14

Section

Minimum Impact

Date: 11/07/2024

Description of CL

Section 3.12. Minimum impact section of DPD states "The project is expected to remove 6976.17 tCO₂eq over the crediting period"

This statement is incorrect as according to the LCA 6976.17 is only the value for the first year of removals. Total removals over the crediting period are 34880.86 tCO₂eq.

Project developer response
Date: 17/07/2024

Thank you for this remark. The minimum impact section is corrected now.

Documentation provided by project developer
DPD
VVB assessment
Date: 17/07/2024

Section 3.12 "Minimum impact" now states the correct value of 34,880 tCO₂eq removals but Section 4.4 "Results" mentions 34,881 removal credits.

PD is requested to use the conservative value and keep these values consistent in the DPD.

Project developer response
Date: 09/08/2024

Done

VVB assessment
Date: 09/08/2024

PD has changed the value in Section 4.4 "Results" and the values are now consistent through the DPD.

Finding is closed.

CL

15

Section

Investment analysis

Date: 31/07/2024

Description of CL

The date of investment decision, type of benchmark used, financial indicator used is not provided in accordance with the paragraphs 6 and 7 of the CDM Methodological Tool27: Investment Analysis, v14.0.

Project developer response
Date: 09/08/2024

The purpose of the validation is to give sufficient guarantees to investors to get them to support the project. The date is therefore undetermined; however, we expect the money to be raised around September – November 2024 if we want to fall in line with our project timeline (attached to the DPD)

Talks with investors suggested it would take the form of equity, but this is yet undetermined as we are still finalising the offtake agreements our current investor was demanding before they invest. Money talks are going to follow the “feasibility” talks.

The benchmark was a cross referencing of our talks with several investors (Removall, Vertree, Replant, WhyOffset, Capturiant, Invert...) and feedback from our Financial advisory board (list below)

Financial Advisory Board:

- **Quentin Sauzay** - Managing Director of the Sustainable Desk at SouthBridge Group
- **Olivier ROBERT** – Former CEO of the restructuration fund Guyenne Capital, moving to la Caisse des deportes et des consignations
- **Anissa Kasmi**- Consultant Capital Market at Accenture who managed the salles of HSBC French agencies to My Money Group
- **Arnaud Lefebvre** - M&A Manager at La Française des Jeux (the operator of France's and the Republic of Ireland's national lottery games)

Documentation provided by project developer

-

VVB assessment
Date: 09/08/2024

Since the Reverse team has clarified that a strict adherence to CDM Methodological Tool 27 is not required by the PD (As mentioned in the responses to CL17 and CL19), the VVB finds the justification provided to be satisfactory.

Finding is closed.

CL	16	Section	Investment analysis	Date: 31/07/2024
Description of CL				
<p>The cash flow analysis does not include fair value of the project activity assets at the end of the assessment period in accordance with the paragraph 6 of the CDM Tool27: Investment Analysis, v14.0.</p>				
Project developer response				Date: 09/08/2024
<p>The equipment used to build our plant has a life expectancy of “over 5 years” (source – last entry in the table) according to the constructor. This is why, we took that reference for our analysis. When asked for more information they told us some pieces might need replacement from 5 years-on</p> <p>It is hard for us to know the rate of replacement for components as the plant is not operational yet , as it will be tailor-made for the project, and while the parts have been used in other operations, the feedstock we will be using (hemp) is new to the constructor</p>				
Documentation provided by project developer				
-				
VVB assessment				Date: 09/08/2024
<p>Since the Riverse team has clarified that a strict adherence to CDM Methodological Tool 27 is not required by the PD (As mentioned in the responses to CL17 and CL19) and the PD has justified a conservative life expectancy of the equipment to be 5 years, the VVB finds the justification provided to be satisfactory.</p> <p>Finding is closed.</p>				

CL	17	Section	Investment analysis	Date: 31/07/2024
Description of CL				

The revenue from the sale of biochar has been considered only for 5 years in the row 23 of the Calculateur Crédits workbook of the "Biochar Unyte Multi-Eco OFFTAKE SHARED" sheet. The requirement in the paragraph 6 of the CDM Tool27: Investment Analysis, v14.0 states that the investment analysis shall be conducted for atleast 10 years.

PD is requested to update the document with an investment analysis conducted for at least 10 years and the update the values of Processed biomass, Captured carbon, Credit sales revenue, Biochar Sales revenue and Total revenue accordingly.

Project developer response
Date: 09/08/2024

Riverse does not require projects to adhere strictly to CDM Tool 27, this tool is used as a reference for the requirements we've outlined. In this context, our analyses are conducted over at least 5 years, which aligns with our carbon crediting period.

As for Unyte, the first investment cycle also spans 5 years, but market reactions to their biochar production remain uncertain. Additionally, the lifespan of the equipment is unclear (see item 22), so we're unsure how much will need replacement between years 5 and 10. Depending on demand, Unyte might decide to scale up production, which would necessitate another round of fundraising.

> Currently, we lack the data needed to project beyond the initial 5-year period. I can either assume that the Year 5 level of activity will continue for the next 5 years, though this may not accurately reflect the project's future development.

Documentation provided by project developer

-

VVB assessment
Date: 09/08/2024

Since the Riverse team has clarified that a strict adherence to CDM Methodological Tool 27 is not required by the PD, the VVB finds the justification provided to be satisfactory.

Finding is closed.

CL

18

Section

Investment analysis

Date: 31/07/2024

Description of CL

The analysis provided in the Riverse additionality evaluation document refers to the expected return of 5x to 10x by venture capital. The reasoning for the same shall be evaluated in context of the paragraph 9 of the CDM Tool27: Investment Analysis, v14.0.

Project developer response
Date: 09/08/2024

Venture Capital: Seeks a 5x to 10x or more Multiple on Invested Capital (MOIC), investing in early-stage projects with high growth potential.

Given current risk and tensions on the biochar market, investors have made it clear they would be looking at the higher end of the MOIC spectrum.

For a 1,5million investment, our revenue goal is 15,000,000€ in project revenue to attract investments.

In the UK, VAT is 20% on the sales and corporation tax on gross profit is 25%

- Global business EBITDA = 26,047,500

Minus VAT is (20% on the sales)

$26\,047\,500 - (26\,047\,500 \times 20\%) = 20\,838\,000$

Minus corporate taxes (25%)

$20\,838\,000 - (20\,838\,000 \times 25\%) = 15\,628\,500$ of net revenue with carbon credits

Which is just above the target of 15 000 000€

- EBITDA on biochar sales only = 20 247 500

Minus VAT is (20% on the sales)

$20\,247\,500 - (20\,247\,500 \times 20\%) = 16\,198\,000$

Minus corporate taxes (25%)

$16\,198\,000 - (16\,198\,000 \times 25\%) = 12\,148\,500$ of net revenue without carbon credits

Which is 2 851 500 short of the target of 15 000 000€, and the project does not meet investor expectations without carbon credit revenue

Documentation provided by project developer

-			
VVB assessment			Date: 09/08/2024
Based on the review of PD's response and the updated BiocharUnyteMulti-EcoofftakeSHARED document, VVB finds PD's claims to be justified.			
Finding is closed.			
CL	19	Section	Investment analysis
			Date: 31/07/2024
Description of CL			
In accordance with the paragraph 28 of the CDM Tool27: Investment Analysis, v14.0, sensitivity analysis for the additionality assessment has not been provided in the Investment Analysis sheet.			
Project developer response			Date: 09/08/2024
<p>Riverse is not requiring them to follow CDM Tool 27 specifically. The tool was simply used as inspiration for the outlined requirements.</p> <p>Nevertheless, we acknowledge the importance of the sensitivity analysis - which is mapped for next methodology updates.</p> <p>A sensitivity analysis was conducted by comparing the different scenarios for the removal credit sales and was added in the Additionality template</p>			
Documentation provided by project developer			
-			
VVB assessment			Date: 09/08/2024
Based on the review of the updated Additionality_evaluation document and the updated <i>BiocharUnyteMulti-EcoofftakeSHARED</i> document provided by the PD, VVB has determined that a satisfactory sensitivity analysis has been conducted and added to both documents using very conservative values.			
Finding is closed.			

CL	20	Section	Investment analysis	Date: 31/07/2024
Description of CL				
<p>The source references for the values provided in the Investment Analysis have not been provided such as the EBITDA on biochar sales.</p> <p>PD is requested to provide the sources for the values used for the investment analysis.</p>				
Project developer response				Date: 09/08/2024

[All cost and revenue items detailed in the BiocharUnyteMulti-EcoofftakeSHARED document](#) linked to the DPD (Item #926 on the Reverse Slacker)

While final value will be determined by our offtake agreement (probably with Holcim cement). According to our latest projections, here is our EBITDA calculation:

- biochar sales price 400€/t
- carbon credit sales price 100€/t
- 3 credits per ton of biochar > 300€ in CC revenue for each ton of biochar

EBITDA = Sales before tax - purchases and external charges - staff costs - other charges

CAPEX Y1 : 800 000
 CAPEX Y3 : 635 000
 OPEX : 303 500€

EBITDA (cumulated on 5 years)
 EBITDA = 29,000,000 – 800,000 – 635,000 – (5x 303,500)
 EBITDA = 29,000,000 – 800,000 – 635,000 – 1,517,500
 EBITDA = 26,047,500

EBITDA on biochar sales = 23,200,000 – 800,000 – 635,000 – (5x 303,500)
 EBITDA on biochar sales = 20,247,500

Documentation provided by project developer

-

VVB assessment

Date: 09/08/2024

Based on the review of the updated *BiocharUnyteMulti-EcoofftakeSHARED* document, VVB has determined that conservative values have been taken by the PD and the sources for the required values such as biochar sales price and EBITDA have been satisfactorily provided in the sensitivity analysis sheet of the document.


Finding is closed.

FAR	01	Section	Site-Visit	Date: 09/08/2024
Description of CL				
<p>Section 6.3.1. of the Reverse Procedures Manual V2 states:</p> <p><i>"A site audit is mandatory within two years of the project's crediting period start date and/or before the second verification audit. This punctual site audit is complementary to the annual operations audits, which are checked during verification via documents and photos."</i></p> <p>Since the VVB has received confirmation in an email correspondence with the Reverse team that a site visit is not required as the project is still in design phase, A site visit shall be conducted during the first verification phase of the project activity.</p>				
Project developer response				Date: XX/XX/XXXX
Documentation provided by project developer				
VVB assessment				Date: XX/XX/XXXX



APPENDIX B

Certificates of Competence



Carbon Check (India) Private Limited

Certificate of Competency

Mr. Anubhav Dimri

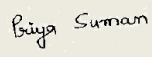
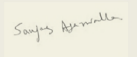
has been qualified as per CCIPL's internal qualification procedures in accordance with the requirements of CDM AS (V7.0), ISO/IEC14065:2020, ISO/IEC 17029:2019 and other applicable GHG programs:

for the following functions and requirements:

<input checked="" type="checkbox"/> Validator	<input checked="" type="checkbox"/> Verifier	<input checked="" type="checkbox"/> Team Leader	<input checked="" type="checkbox"/> Technical Expert
<input checked="" type="checkbox"/> Technical Reviewer	<input type="checkbox"/> Health Expert	<input type="checkbox"/> Gender Expert	<input checked="" type="checkbox"/> Plastic Waste Expert
<input checked="" type="checkbox"/> CCB Expert	<input type="checkbox"/> Legal Expert	<input checked="" type="checkbox"/> Financial Expert	<input checked="" type="checkbox"/> Environmental, Health and Safety financial matters
<input checked="" type="checkbox"/> SDG+	<input checked="" type="checkbox"/> Social no-harm(S+)	<input checked="" type="checkbox"/> Environment no-harm(E+)	
<input checked="" type="checkbox"/> Local Expert for India, RSA and Spanish speaking countries			

in the following Technical Areas:

<input checked="" type="checkbox"/> TA 1.1	<input checked="" type="checkbox"/> TA 1.2	<input type="checkbox"/> TA 2.1	<input checked="" type="checkbox"/> TA 3.1	<input type="checkbox"/> TA 4.1
<input type="checkbox"/> TA 4. n	<input type="checkbox"/> TA 5.1	<input type="checkbox"/> TA 5.2	<input type="checkbox"/> TA 7.1	<input checked="" type="checkbox"/> TA 8.1
<input type="checkbox"/> TA 9.1	<input type="checkbox"/> TA 9.2	<input type="checkbox"/> TA 10.1	<input checked="" type="checkbox"/> TA 13.1	<input checked="" type="checkbox"/> TA 13.2
<input checked="" type="checkbox"/> TA 14.1	<input checked="" type="checkbox"/> TA 15.1	<input checked="" type="checkbox"/> TA 16.1		

<p>Issue Date</p> <p>5th December 2023</p>  <p>Ms. Priya Suman Compliance Officer</p>	<p>Expiry Date</p> <p>31st December 2024</p>  <p>Mr. Sanjay Kumar Agarwalla Technical Director</p>
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Revision History of the document:

Revision date	Summary of changes
2022 ¹	Annual revision
Jan 2023	Annual revision
Dec 2023	Change in the template due to revision in TA and function

CCIPL_FM 7.9 Certificate of Competency_V4.0_112023
¹ Please refer to previous version of FM 7.9 for the revision history


Carbon Check (India) Private Limited
Certificate of Competency
Mr. Amit Anand

has been qualified as per CCIPL's internal qualification procedures in accordance with the requirements of CDM AS (V7.0), ISO/IEC14065:2020, ISO/IEC 17029:2019 and other applicable GHG programs:

for the following functions and requirements:

- | | | | |
|--|--|---|---|
| <input checked="" type="checkbox"/> Validator | <input checked="" type="checkbox"/> Verifier | <input checked="" type="checkbox"/> Team Leader | <input checked="" type="checkbox"/> Technical Expert |
| <input checked="" type="checkbox"/> Technical Reviewer | <input type="checkbox"/> Health Expert | <input type="checkbox"/> Gender Expert | <input checked="" type="checkbox"/> Plastic Waste Expert |
| <input checked="" type="checkbox"/> CCB Expert | <input type="checkbox"/> Legal Expert | <input checked="" type="checkbox"/> Financial Expert | <input type="checkbox"/> Environmental, Health and Safety financial matters |
| <input checked="" type="checkbox"/> SDG+ | <input checked="" type="checkbox"/> Social no-harm(S+) | <input checked="" type="checkbox"/> Environment no-harm(E+) | |
| <input checked="" type="checkbox"/> Local Expert for India and RSA | | | |

in the following Technical Areas:

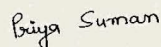
- | | | | | |
|---|---|----------------------------------|---|---|
| <input checked="" type="checkbox"/> TA 1.1 | <input checked="" type="checkbox"/> TA 1.2 | <input type="checkbox"/> TA 2.1 | <input checked="" type="checkbox"/> TA 3.1 | <input type="checkbox"/> TA 4.1 |
| <input type="checkbox"/> TA 4. n | <input type="checkbox"/> TA 5.1 | <input type="checkbox"/> TA 5.2 | <input type="checkbox"/> TA 7.1 | <input checked="" type="checkbox"/> TA 8.1 |
| <input type="checkbox"/> TA 9.1 | <input type="checkbox"/> TA 9.2 | <input type="checkbox"/> TA 10.1 | <input checked="" type="checkbox"/> TA 13.1 | <input checked="" type="checkbox"/> TA 13.2 |
| <input checked="" type="checkbox"/> TA 14.1 | <input checked="" type="checkbox"/> TA 15.1 | <input type="checkbox"/> TA 16.1 | | |

Issue Date

 5th December 2023

Expiry Date

 31st December 2024



 Ms. Priya Suman
 Compliance Officer



 Mr. Sanjay Kumar Agarwalla
 Technical Director

Revision History of the document:

Revision date	Summary of changes
2022 ¹	Annual revision
Jan 2023	Annual revision
Dec 2023	Change in the template due to revision in TA and function

CCIPL_FM 7.9 Certificate of Competency_V4.0_112023

¹ Please refer to previous version of FM 7.9 for the revision history



Carbon Check (India) Private Limited

Certificate of Competency

Mr. Sanjay Kumar Agarwalla

has been qualified as per CCIPL's internal qualification procedures in accordance with the requirements of CDM AS (V7.0), ISO/IEC 14065:2020, ISO/IEC 17029:2019 and other applicable GHG programs:

for the following functions and requirements:

- | | | | |
|---|--|---|---|
| <input checked="" type="checkbox"/> Validator | <input checked="" type="checkbox"/> Verifier | <input checked="" type="checkbox"/> Team Leader | <input checked="" type="checkbox"/> Technical Expert |
| <input checked="" type="checkbox"/> Technical Reviewer | <input type="checkbox"/> Health Expert | <input type="checkbox"/> Gender Expert | <input type="checkbox"/> Plastic Waste Expert |
| <input type="checkbox"/> CCB Expert | <input type="checkbox"/> Legal Expert | <input checked="" type="checkbox"/> Financial Expert | <input type="checkbox"/> Environmental, Health and Safety financial matters |
| <input checked="" type="checkbox"/> SDG+ | <input checked="" type="checkbox"/> Social no-harm(S+) | <input checked="" type="checkbox"/> Environment no-harm(E+) | |
| <input checked="" type="checkbox"/> Local Expert for India and Bangladesh | | | |

in the following Technical Areas:

- | | | | | |
|--|--|---|---|---|
| <input checked="" type="checkbox"/> TA 1.1 | <input checked="" type="checkbox"/> TA 1.2 | <input checked="" type="checkbox"/> TA 2.1 | <input checked="" type="checkbox"/> TA 3.1 | <input checked="" type="checkbox"/> TA 4.1 |
| <input type="checkbox"/> TA 4. n | <input checked="" type="checkbox"/> TA 5.1 | <input checked="" type="checkbox"/> TA 5.2 | <input checked="" type="checkbox"/> TA 7.1 | <input type="checkbox"/> TA 8.1 |
| <input checked="" type="checkbox"/> TA 9.1 | <input checked="" type="checkbox"/> TA 9.2 | <input checked="" type="checkbox"/> TA 10.1 | <input checked="" type="checkbox"/> TA 13.1 | <input checked="" type="checkbox"/> TA 13.2 |
| <input type="checkbox"/> TA 14.1 | <input type="checkbox"/> TA 15.1 | <input checked="" type="checkbox"/> TA 16.1 | | |

Issue Date

05th December 2023

Expiry Date

31st December 2024

Priya Suman

Ms. Priya Suman
 Compliance Officer

Revision History of the document:

Revision	Summary of changes
2022 ¹	Annual revision
Jan 2023	Annual revision and template change
Dec 2023	Change in the template due to revision in TA and function

CCIPL_FM 7.9 Certificate of Competency_V4.0_112023

¹ Please refer to previous version of FM 7.9 for the revision history



Revision history:

Revision Number	Revision Date	Summary of changes
00	Nov 2022	New document as per ISO 14065 requirements
01	Jan 2021	Revision in response to NABCB's round 2 desk review observation
02	Nov 2022	Revision due to th NC no.06 issued in ANAB Office Assessment