

Project Audit Report

VALIDATION REPORT

ETM GROUP COMPANY LIMITED

Standard Project Audit Report By ETM Group Co., Ltd. and International Best Practices for Voluntary Greenhouse Gas Reduction Projects.

<i>Details of the project being inspected</i>	
Project owner	Carbon Solution (Thailand) Limited Partnership
Project name	Carbon sequestration and greenhouse gas emission reduction in rubber plantations Buriram Province using Cryptocurrency, Blockchain and satellite technology
Project type (Determined according to the methodology used)	☐ Forests and green spaces ☒ agriculture

<i>Project Auditor Details</i>	
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<i>Document preparation details</i>	
Project Audit Report	June 25, 2025 (Issue 1)
Project proposal documents that have been reviewed	June 1, 2025 (Issue 1)

Notification of Interest

I, Mr. Poppanat Rittinet.

Legal entity : ETM Group.

Act as an external assessor for voluntary greenhouse gas reduction projects according to the ETM Carbon Trade Standard (ECT) By ETM Group Co., Ltd. standards and international best practices for voluntary greenhouse gas reduction projects.

During the period of my assigned activities, I hereby certify that I have no stake in or relationship with any other organization or agency related to greenhouse gas reduction activities of the project: Carbon Capture and Greenhouse Gas Emission Reduction in Rubber Plantations, Buriram Province, Using Cryptocurrency, Blockchain , and Satellite Technology. Carbon Solution (Thailand) Limited Partnership is the project owner.

I hereby confirm the following details:

- (1) Never performed work or provided advice to project developers during the past year or for any contracts that were previously agreed upon.*
- (2) No direct family member has worked or consulted with the project developer within the past year or has been previously committed.*
- (3) Not being a shareholder or having no direct family member as a shareholder in the project developer's company*
- (4) Not being an executive or not having a direct family member as an executive, or may have commercial benefits for the project developer.*

(Sign).....

(MR.POPPANAT RITTINET)

August 1, 2025

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1. Introduction

1.1 Background of the audit

This report is prepared to present the results of the validation of the project "Carbon Capture and Greenhouse Gas Emission Reduction in Rubber Plantations, Buriram Province using Cryptocurrency, Blockchain and Satellite Technologies" developed by ETM Group Co., Ltd. and owned by Carbon Solution (Thailand) Limited Partnership. The validation was conducted by ETM Group Co., Ltd. as an independent third-party assessor to confirm that the project design document (PDD) and implementation plan comply with the requirements of the ETM Carbon Trade Standard (ECT) By ETM Group Co., Ltd. standard and international best practice principles for voluntary greenhouse gas reduction projects.

1.2 Objectives of the audit

The main purpose of this audit is:

- To verify the accuracy and completeness of the information and assumptions specified in the project design document (PDD).
- To assess whether the project design complies with the requirements of the ETM Carbon Trade Standard (ECT) By ETM Group Co., Ltd.
- To assess the reliability and appropriateness of the greenhouse gas reduction/storage calculation methods and the monitoring plan.
- To confirm the project's potential to create co -benefits in environmental, social and economic dimensions.

1.3 Scope of the audit

The scope of the audit includes an evaluation of all key elements of the project design document (PDD) and implementation plan, including:

- Accuracy of project identification and scoping
- Appropriateness of the baseline determination method and the assessment of additionality
- The validity of assumptions and methodologies used to calculate the expected greenhouse gas reduction/storage volumes
- Completeness and practicability of the monitoring and evaluation plan
- Identifying and assessing project co -benefits, including linkages to the Sustainable Development Goals (SDGs).
- Assessment of the role and application of Cryptocurrency, Blockchain and Satellite technologies in project operations and monitoring

1.4 Inspection criteria

This audit is conducted according to the following main criteria:

- **Standard By ETM Group Co., Ltd.** This is the main standard used in project development and evaluation.
- **Best Practices for Voluntary Carbon Projects** This is done by considering some of the guidelines and requirements from well-known international standards such as the Verified Carbon Standard (VCS) and the Gold Standard (in the part related to the assessment of joint benefits).
- **IPCC (Intergovernmental Panel on Climate Change) Greenhouse Gas Calculation Guidelines** For the assessment of greenhouse gas sequestration/reduction volume

- **The United Nations Sustainable Development Goals (SDGs)** For categorizing and evaluating joint benefits

2. Project information

2.1 General information of the project

- **Project name:** Carbon sequestration and greenhouse gas emission reduction in rubber plantations in Buriram Province using cryptocurrency, blockchain and satellite technologies.
- **Project owner:** Carbon Solution (Thailand) Limited Partnership
- **Project developer:** ETM Group Company Limited
- **Project location:** Samrong Mai Subdistrict, Lahan Sai District, Buriram Province
- **Operating area:** Covering the rubber plantation areas of farmers **131 cases** Total area **1,936.15 rai** (average approximately 14.78 rai per person)
- **Activity type** Sustainable management of rubber plantations to increase carbon sequestration and reduce greenhouse gas emissions through promoting no-burn practices , reducing chemical use , intercropping, and applying digital technology.

2.2 Project objectives and activities

- **Main objectives** Reduce greenhouse gas emissions through sustainable rubber plantation management and increase carbon sequestration in rubber plantation biomass and soil.
- **Main activities** Farmer education and training , promotion of soil and weed management without burning , intercropping (Agroforestry), reduction of agricultural chemical use, use of Blockchain technology for data recording, use of satellites for monitoring, and use of Cryptocurrency for carbon credit trading.

2.3 Application of technology in the project

- **Blockchain** For recording activities in rubber plantations (e.g. fertilizer use, waste management), making the data transparent, traceable and reliable. With an average of 10 activity records per plot per year, with accurate timestamps.
- **Satellite** For tracking and confirming information on planting areas, rubber tree health, land use changes and biomass assessment. Data analysis can cover a total area of 1,936.15 rai with a frequency of every 7-14 days. and provide vegetation integrity data (NDVI) Accurate to the plot level (Plot ID)
- **Cryptocurrency** To create and trade carbon credit tokens to increase liquidity and promote direct distribution of financial benefits to farmers. Reduce the process of receiving money from 5 steps to only 2 steps and reduce the payment time from 30 days to only 7 business days.

3. Audit process and procedures

The audit is conducted according to the procedures set out in the ETM Carbon Trade Standards (ECT), with the following methodology:

3.1 Document Review

The auditor has carefully reviewed the Project Design Document (PDD) and all related documents, including:

- Project details document

- Area survey and assessment data
- Greenhouse gas calculation methodology
- Monitoring and Evaluation Plan
- Stakeholder participation documents
- Co-benefits Report

3.2 Interviews and On-Site Visits

As this is a draft audit report, an on-site visit will be conducted in the next step, with the following plan:

- **Interview** Interviews were conducted with project developers, project owners, executives and related teams, as well as representatives of participating farmers and local stakeholders to confirm information and understand the actual operational process. Fourteen people involved in the survey and field data collection were interviewed, including: Ms. Jongklanee Wattanapitak, Mr. Prawit Wattanapitak, Ms. Sanai Chalunram, Ms. Sasithorn Sathantheun, Ms. Meawdee Pamthonglang, Mr. Anuwat Praphasiriphan, Mr. Prawit Chaiphet, Ms. Thanaporn Wattanapitak, Mr. Suwan Kaensuk, Ms. Suphan Kaensuk, Mr. Thiwakon Kaensuk, Mr. Kamol Thammarangsi, Mr. Thanapon Buntos, and Mr. Sapon Suthithammanan
- **On-site inspection** Visit the participating rubber plantations to inspect the actual site conditions, adherence to sustainable management guidelines, and installation/operation of the technology system (if already installed).

3.3 Sampling and Data Verification

- **Sampling** A sampling plan was in place for rubber plantations and farmers to conduct field data verification and confirm compliance with the guidelines specified in the PDD, **with at least 10% of the participating plots being sampled.**
- **Data verification** Verify the accuracy of data recorded on the Blockchain platform against field records (if any) and confirm satellite analysis data.

4. Inspection results

4.1 Assessment of the consistency of the project design document (PDD)

4.1.1 Project Identification and Scope

- **Inspection results** *The PDD document clearly and completely identifies the project name, owner, developer and location. Total area 1,936.15 rai and number of farmers 131 As confirmed by the preliminary data presented, the project scope covers rubber plantation management activities directly related to greenhouse gas reduction and sequestration, and uses technology as the main mechanism.*

- **Comments** *Compliance with requirements*

4.1.2 Baseline Determination

- **The PDD results** *suggest an appropriate baseline concept based on common farmer practices in the area that may cause greenhouse gas emissions (e.g., weed burning, chemical fertilizer use). The reference data for baseline construction are reliable at the conceptual level and will be further verified during field investigations.*

- **Comments** *Compliance with conceptual level requirements requires further retrospective data validation when actual data is collected.*

4.1.3 Additionality Assessment

- **PDD findings** provide a compelling complementarity analysis, pointing out that project activities (e.g., reduced burning, use of Blockchain/Cryptocurrency technology) are not common practices in the area due to investment barriers (cost of access to technology), technological barriers (understanding of Blockchain/Cryptocurrency), and institutional barriers (lack of easily accessible carbon market mechanisms for smallholder farmers). The recognition of carbon credit revenue is a key motivation for the project to be implemented.

- **Comments** Compliance with the requirements demonstrates the project's complementarity.

4.1.4 Leakage Assessment

- The PDD **results** identify potential leakage (e.g., relocation of burning to another area) and suggest approaches to reduce and monitor leakage, such as educating farmers on the impacts of burning and using satellite imagery to monitor land use change around the project area.

- **Comments** Compliance with regulations, leakage monitoring plan is appropriate.

4.1.5 Calculation of greenhouse gas reduction/storage volume

- The PDD **results** provide a preliminary approach and assumptions for calculating the carbon sequestration potential from rubber tree growth and the greenhouse gas emission reductions from reduced burning and chemical use. **With an expected reduction of 8,578.98 tCO₂e / year in greenhouse gas emissions , and during the 7- year carbon credit calculation period (from 1 January 2016 to 31 December 2022) , it is expected that a total reduction of 60,052.86 will be achieved. tons of carbon dioxide equivalent** This is in line with the guidelines of the ETM Carbon Trade standard and the IPCC Guidelines. But these numbers will be confirmed with real data from tracking.

- **Comments** The calculation methodology presented in the PDD is reasonable and consistent with the standards, but it requires verification of the underlying data and activity data from actual operations.

4.1.6 Monitoring Plan

- The PDD **audit results** provide a comprehensive monitoring plan covering environmental, social and economic aspects, with a strong emphasis on technology. Clear indicators are identified for each co-benefits (e.g. soil organic matter content , number of training participants , additional farmer income). With the goal of reducing field inspection costs by approximately 30-40%. This plan is feasible and can provide sufficient data for future audits and certification.

- **Comments** The monitoring plan is complete and appropriate for the use of technology.

4.2 Co-benefits Assessment

The auditors assessed the project's co-benefits as identified in the Co-benefits Report and PDD, with links to the following Sustainable Development Goals (SDGs) :

4.2.1 Environmental benefits

- **Inspection results** The project has high potential to generate environmental benefits beyond direct greenhouse gas reductions, such as promoting biodiversity through intercropping. (Increase the diversity of plant species in the rubber garden by an average of 3 - 5 types per plot) Soil quality improvement by not burning (The amount of organic matter in soil (SOC) increases by an average of 0.5-1% per year.) Water resource conservation through chemical reduction (Reduces the amount of chemicals leached into water sources by up to

25%) and improving air quality from reducing burning (Reduces PM2.5 dust by approximately 20 - 30%)

- **Comments** Environmental benefits are clear and preliminary quantitative indicators have been identified.

4.2.2 Social benefits

- **Inspection results** The project plays an important role in improving the quality of life and well-being of farmers and communities. (It is projected that the rate of respiratory illnesses related to burning will decrease by 10% within 2 years.) Job creation and workforce empowerment (Creating approximately 1 field job position per 100 rai and with more than 90% of farmers participating in the training) Strengthening communities through integration and access to new knowledge and technologies (70% of farmers were able to independently use the data recording platform within 6 months)

- **Comments** The social benefits are prominent and supported by strong data.

4.2.3 Economic benefits

- **Inspection results** Project to create economic opportunities and increase sustainable income for farmers (It is expected that this will generate additional income for farmers of an average of 1,000 - 2,000 baht/rai from selling carbon credits.) Including income from intercropping (Increase average income by 500 - 1,500 baht/household/year) Reducing production costs (Reduce the cost of production factors for farmers by 10 - 15%) Creating new business opportunities from the digital carbon market and developing farmers' competitive skills (Increases the bargaining power of farmer groups by up to 10 -20%)

- **Comments** The economic benefits are tangible and have attractive estimates.

4.3 Evaluation of technology application

4.3.1 Blockchain

- **Inspection results** The use of Blockchain as a data recording system is suitable and has high potential to create transparency and traceability. With the accuracy of data recorded on the system up to 99.9% and Reduce traceability time from days to minutes. This will simplify future verification and increase the credibility of carbon credits.

- **Comments** Robust and innovative system design

4.3.2 Satellite

- **Inspection results** The use of satellite imagery technology for field monitoring and biomass assessment increases the efficiency and accuracy of measurement. Covering an area of 1,936.15 rai with image resolution 3 - 5 meters per pixel and Biomass conversion can be identified with 90% accuracy. Helps reduce the need and cost of field surveys.

- **Comments** The application of satellite technology has advanced and is very useful for monitoring.

4.3.3 Cryptocurrency

- **Inspection results** The mechanism for using Cryptocurrency in trading and distributing benefits is transparent and efficient. Reduce transaction fees by 50% and Reduce the steps to receive money for farmers quickly This is an important incentive to promote farmer participation.

- **Comments** The financial mechanism is modern and supports small-scale farmers.

5. Suggestions for improvement (if any)

- **Baseline data collection** To strengthen the PDD, more detailed quantitative baseline data should be collected for all co-benefits indicators (e.g., pre-project soil organic matter, local farmer health statistics, pre-project average income) .
- **Preparation of additional documents and evidence** Prepare a systematic documentation and evidence plan to support future on-site audits and data sampling (e.g., training records, participant lists, input usage records).
- **Risk analysis** Further analysis of potential risks to joint benefits and risk mitigation plans in the PDD are provided in greater detail.

6. Summary and comments from the audit (Validation Opinion)

6.1 Summary of inspection results

☒ *From the document review and preliminary assessment as an external assessor, the project "Carbon Capture and Greenhouse Gas Emission Reduction in Rubber Plantations, Buriram Province Using Cryptocurrency, Blockchain and Satellite Technology" developed by ETM Group Co., Ltd. and the project owner, Carbon Solution (Thailand) Limited Partnership, has a strong project design that is consistent with the ETM Carbon Trade Standard (ECT) By ETM Group Co., Ltd. standards and international best practices.*

☒ *The project utilizes innovative blockchain, satellite, and cryptocurrency technologies to enhance efficiency, transparency, and reliability in operations, measurement, and distribution of benefits. Furthermore, the project has high potential to generate significant and diverse co-benefits across environmental, social, and economic dimensions, aligning with the United Nations Sustainable Development Goals (SDGs).*

6.2 Comments from the audit

(1) From the review of project design documents (PDD) and supporting documents ETM Group As an independent external assessor, we have determined that the project "Carbon Capture and Greenhouse Gas Emission Reduction in Rubber Plantations in Buriram Province Using Cryptocurrency, Blockchain, and Satellite Technologies" Designed to meet the requirements of ETM Carbon Trade Standards (ECT) by ETM Group Co., Ltd. for voluntary greenhouse gas reduction projects

☒ *The project demonstrates a clear and credible path to achieving its stated objectives, including the creation of verifiable co-benefits.*

(2) The project's baseline design, additionality, leakage, GHG quantification methodology and monitoring plan are reasonable and in line with the established criteria. The innovative integration of Blockchain, satellite and Cryptocurrency technologies significantly enhances the project's transparency, efficiency and accountability. Moreover, the project identifies significant environmental, social and economic co-benefits.

☒ *Clearly aligned with the Sustainable Development Goals (SDGs)*

(3) Subject to the condition that the project implements the monitoring and collection plan for verifiable data as specified in the PDD, including the correction of the minor improvement suggestions identified, the project is considered

☒ *Eligible for validation*

Comments from the Review

- (1) Based on the review of the Project Design Document (PDD) and supporting documentation, ETM Group Company Limited as the independent external validator, has determined that the project "Carbon Sequestration and Greenhouse Gas Emission Reduction in Rubber Plantations in Buriram Province Using Cryptocurrency, Blockchain, and Satellite Technology" is designed in accordance with the requirements of the ETM Carbon Trade by ETM Group Co., Ltd. Standard for voluntary greenhouse gas reduction projects.

☒ ***The project demonstrates a clear and credible approach to achieving its stated objectives, including the generation of verifiable co-benefits.***

- (2) The design of the project's baseline, additionality, leakage, GHG quantification methodology, and monitoring plan are found to be reasonable and align with the specified criteria. The innovative integration of Blockchain, Satellite, and Cryptocurrency technologies significantly enhances the project's transparency, efficiency, and verifiability. Furthermore, the project clearly identifies substantial environmental, social, and economic co-benefits.

☒ ***Clearly aligned with the Sustainable Development Goals (SDGs).***

- (3) Subject to the successful implementation of the monitoring plan and the collection of verifiable data as outlined in the PDD, and the satisfactory address of any minor recommendations for improvement, this project is deemed?

☒ ***Eligible for validation.***

7. Auditor information

Inspector: Mr. Poppanat Rittinet
Position: External Project Evaluator
Agency: ETM Group

(Sign)
(Mr. Poppanat Rittinet)

Date of Issue: August 1, 2025