VALIDATION REPORT "IMPROVED COOKSTOVES IN LIBERIA"

Document Prepared by Carbon Check (India) Private Ltd.

Project Title	IMPROVED COOKSTOVES IN LIBERIA
Version	4.0
Report ID	CCIPL1783/VERRA/VAL/ICSL/20230223

Report Title	IMPROVED COOKSTOVES IN LIBERIA
Client	Carbonibus S.r.l
Date of Issue	01-August-2023
Prepared By	Carbon Check (India) Private Ltd.
Contact	Carbon Check (India) Private Ltd. Registered office: 2071/38, 2nd floor,

	Naiwala, Karol Bagh, New Delhi- 110005, India. Carbon Check (India) Private Ltd. Corporate office: Unit No. 1701, Logix City Centre Office Tower, Plot No. BW-58, Sector 32, Noida, Uttar Pradesh – 201 301 India www.carboncheck.co.in projects@carboncheck.co.in
Approved by	 Vikash Kumar Singh, Compliance Officer
Work carried out by	Sanjay Kumar Agarwalla (Team Leader and Technical Expert) Dinesh Mane (Team Member) Tanvi Nadkarni (Trainee Assessor) Rishika Sanjay Shirke (Trainee Assessor) Shivaji Chakraborty (Technical Reviewer)

Summary:

- **A brief description of the validation and the project**

  Validation: Carbonibus S.r.l, as the project proponent, has commissioned Carbon Check (India) Private Ltd., to carry out the validation of the project "IMPROVED COOKSTOVES IN LIBERIA", with regards to the relevant requirements of VCS Standard Version 4.4 /B01/.

  Project: The proposed project, is a large-scale project which employs VCS methodology; VMR0006 version 1.1 /B07/. The project involves dissemination of energy-efficient improved cookstoves (ICS) in Liberia. The project results in reducing the amount of non-renewable biomass used for cooking. Through reduction in non-renewable biomass consumption, the programme will decrease greenhouse gas emissions.

  The estimated annual average emission reduction saving for this Project is 1,627,469 tCO_2e and total GHG emission reductions and removals over the first crediting period of 7 years (renewable twice) are 11,392,289 tCO_2e.

- **The purpose and scope of validation**

  Purpose: The purpose of a validation is to have a thorough and independent assessment of the proposed large-scale project against the applicable VCS requirements, in particular, the project's baseline, monitoring plan and the project's compliance with relevant VCS and host Party criteria. 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 VCS projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of emission reductions. Carbon Check's objective is to perform a thorough, independent assessment of the validation of the large-scale project.

  Scope: The validation scope is defined as an independent and objective review of the Project Description (PD). The PD is reviewed against the relevant criteria and guidance documents provided by VCS which included the following: VCS Program Guide, version 4.3 /B02/, VCS Standard, version 4.4 /B01/, Program Definitions, version 4.3 /B05/, Registration & Issuance Process, version 4.3 /B04/ and in line with the VCS Validation and Verification Manual, version 3.2 /B03/ applicable at the time in order to confirm that the project meets the applicability conditions of the selected baseline and monitoring methodology, VMR0006, version 1.1 /B07/ and also assess the claims and assumptions made in the PD without limitation on the information provided by the project proponents.

- **The method and criteria used for validation**

  Validation consists of the following four phases:

  I. A desk review of the project description documents

  - A review of data and information;

- Cross checks between information provided in PD and information from sources with all necessary means without limitations to the information provided by the project proponent;

II. On-site visit and follow-up interviews with project stakeholders

- Interviews with relevant stakeholders in host country with personnel having knowledge with the project development via telephone, email or on-site visits;
- Cross checking between information provided by interviewed personnel with all necessary means without limitations to the information provided by the project proponent;

III. Reference to available information relating to projects or technologies similar to project under validation and review based on the approved methodology being applied for the appropriateness of formulae and accuracy of calculations.

IV. The resolution of outstanding issues and the issuance of the final validation report and opinion.

- **The number of findings raised during validation**

  During the course of validation, a total of **11 findings** were raised, which include:

  07 Corrective Action Requests (CARs);

  04 Clarification Requests (CLs);

  00 Forward Action requests (FARs).

  All the above findings are resolved by the PP and have been successfully closed.

- **Any uncertainties associated with the validation**

  The PD /01-3/, emissions reduction calculations /02/ along with the supporting documents provided are considered to be in line with the VCS version 4 requirements. The validation team has detected no further uncertainties or quality restriction.

- **Summary of the validation conclusion**

  Carbon Check (India) Private Ltd. hereby confirms that the project is fulfilling the criterions specified by VCS PD template version 4.2 /B06/, VCS Standard version 4.4 /B01/, applied methodology VMR0006, version 1.1 /B07/ and hence be successfully validated under VCS. Carbon Check confirms a positive validation opinion confirming the project complies with the applicable VCS requirements, thus recommending the project for registration.

CONTENTS

1 INTRODUCTION 6
1.1 Objective 6
1.2 Scope and Criteria 6
1.3 Reasonableness of Assumptions 7
1.4 Summary Description of the Project 7
2 VALIDATION PROCESS 7
2.1 Method and Criteria 7
2.2 Document Review 8
2.3 Interviews 9
2.4 Site Visits 10
2.5 Resolution of Findings 10
3 VALIDATION FINDINGS 11
3.1 Project Details 11
3.2 Safeguards 13
3.3 Application of Methodology 14
3.4 Non-Permanence Risk Analysis 27
4 VALIDATION OPINION 27
APPENDIX 1.1: REFERENCE DOCUMENTS 29
APPENDIX 1.2: BACKGROUND DOCUMENTS 31
APPENDIX 2: ABBREVIATIONS 32
APPENDIX 3: CERTIFICATES OF COMPETENCE 34
APPENDIX 4: FINDINGS LOG 37

1 INTRODUCTION

Carbonibus S.r.l has commissioned the VVB, Carbon Check (India) Private Ltd. to perform a validation of the VCS large-scale project "IMPROVED COOKSTOVES IN LIBERIA" This report summarises the findings of the validation of the project, performed on the basis of the VCS Program Guide, version 4.3 /B02/, VCS Standard, version 4.4 /B01/, VCS Program Definitions, version 4.3 /B05/, Registration & Issuance Process, version 4.3 /B04/ and VCS Validation and Verification Manual, version 3.2 /B03/. This report contains the findings and resolutions from the validation of the large-scale project.

1.1 Objective

The purpose of a validation is to have a thorough and independent assessment of the proposed large-scale project against the applicable VCS requirements, in particular, the project's baseline, monitoring plan and the project's compliance with relevant VCS and host Party criteria. 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 VCS projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of emission reductions, VCUs.

1.2 Scope and Criteria

The validation scope is defined as an independent and objective review of the Project Description (PD), project design, the project's baseline study and monitoring plan and other relevant documents. The PD is reviewed against the relevant criteria and decisions by the VCSA, including the approved baseline and monitoring methodology. Carbon Check has employed a risk-based approach in the validation, focusing on the identification of significant risks and reliability of project monitoring and generation of emission reductions.

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

The validation is carried out on the basis of the following requirements, applicable for this large-scale project:

- VCS Program Guide (v4.3) /B02/
- VCS Standard (v4.4) /B01/
- Program Definitions (v4.3) /B05/
- Registration & Issuance Process (v4.3) /B04/

- VCS Validation and Verification Manual (v 3.2) /B03/
- VCS Methodology: VMR0006.: Methodology for Installation of High Efficiency Firewood Cookstoves" (Version 1.1). /B07/
- Other relevant rules, including the host country legislation.

1.3 Reasonableness of Assumptions

☒ Reasonable level of assurance

☐ Limited level of assurance

The threshold for quantitative materiality with respect to the aggregate of errors, omissions, and misrepresentations, relative to the total reported GHG emission reductions and/or removals was limited to one percent, as required by section 4.1.8 of the VCS Standard v. 4.4 /B01/.

1.4 Summary Description of the Project

The proposed project is a large project which employs of the VCS methodology; VMR0006 version 1.1 /B07/. The project involves distribution of energy efficient improved cook stoves (ICS) in Liberia. The project aims to disseminate 500,000 energy efficient (ICS) stoves in Liberia. These improved cookstoves will reduce the amount of non-renewable biomass used for cooking. PP has considered distribution of 500,000 ICS, namely CH2200 /EcoSaver Charcoal, CH5300/SuperSaver Charcoal, and M5000/SuperSaver Wood. The start date for the project is 15-May-2023, which is the expected date of installation of the first ICS under the project activity. The project adopts a renewable crediting period of 7 years which can be renewed twice in 21 years.

The project proponent for the large project is Carbonibus S.r.l /07/ and other entities are Envirofit international, who is the project implementer and Climate Secure, who is involved in the completion of project description.

The estimated GHG emission reductions over the crediting period, expected from the large-scale project activity are 11,392,289 tCO_2e and an average of 1,627,469 tCO_2e per year.

2 VALIDATION PROCESS

2.1 Method and Criteria

Carbonibus S.r.l has commissioned Carbon Check (India) Private Ltd., to carry out the validation of the large project "IMPROVED COOKSTOVES IN LIBERIA", with regards to the relevant requirements of VCS Standard, version 4.4 /B01/.

The validation includes a thorough and independent assessment of the proposed project against the applicable VCS requirements, in particular, the project's baseline, monitoring plan and the project's compliance with relevant VCS and host Party criteria. The validation involves assessment of the project and to confirm that the project meets the applicability conditions of the selected methodology, VMR0006, version 1.1 /B07/ and also assess the claims and assumptions made in the PD without limitation on the information provided by the project proponents. The overall validation was conducted using Carbon Check's internal procedures.

The validation schedule, including key milestones is stated below:

Milestone description	Time
Listing of the Project	4th April 2023
Date of contract signing with the VVB	01st March 2023
Submission of requisite documents to the VVB	3rd March 2023
Desk Review	5th April 2023 – 10th April 2023
On-site Audit	21st April 2023
Date of Issue of Draft Validation Report	21st April 2023
Date of Issue of Final Validation Report	01st August 2023

2.2 Document Review

The VCS project description, emission reduction calculation spread sheet and supporting documents related to the project design and baseline were reviewed, cross-checked, and compared with identified and stated as per VCS Standard, version 4.4 standard /B01/ requirements. The desk review included:

- A review of the data and information presented to verify completeness and consistency in accordance with VCS version 04 requirements;
- A review of the project description and monitoring methodology, paying particular attention to the applicability conditions of the methodology and baseline and additionality related requirements.
- A review of the monitoring plan and the project's compliance with relevant VCS criteria.

Furthermore, the validation team used additional documentation by third parties like host-party legislation, technical reports referring to the project design or to the basic conditions and technical data.

2.3 Interviews

Interviews with the PP representatives and local stakeholders were undertaken on 21-April-2023 by onsite visit through local expert and remote interviews by other validation team members using audio and video calls to confirm the information as outlined in the table below and to resolve issues identified in the document review.

The key personnel interviewed, and the main topics of the interviews are summarized in the table below:

	Date	Name	Organisation	Topic
/a/	21-April-2023	Umberto Malesci	Carbonibus S.r.l	• Project Design • Project start date and Project Location • Baseline Scenario • Baseline Identification and Additionality • Monitoring and reporting documentation • Quality Assurance – Management and operating system • Social and Environmental Impacts • Compliance with relevant laws • ICS distribution plan • Technology used in project stove and its technical specifications
/b/	21-April-2023	Kate Bakal		
/c/	21-April-2023	Tim Bauer	Envirofit	
/d/	21-April-2023	Nathan Lorenz		
/e/	21-April-2023	Rohit Lohia	Climate Secure	• Project Design • Project start date and Project Location • Baseline Scenario • Baseline Identification and Additionality • Monitoring and reporting documentation • Quality Assurance – Management and operating system • Social and Environmental Impacts
/f/	21-April-2023	Ashutosh Tiwari		
/g/	21-April-2023	Rishabh Pathania		

				• Compliance with relevant laws
/h/	21-April-2023	Moses Gballey	Local Stakeholder - entrepreneur	• Local Stakeholder Consultation • Social and Environmental Impacts • Local Stakeholders Grievance mechanism • Trainings and jobs provided to stakeholders
/i/	21-April-2023	Royston Gbelia	Local Stakeholder - SJedi Green Energy	
/j/	21-April-2023	Lily Saab	Local Stakeholder - Leap network	
/k/	21-April-2023	Amaziah Tardeh	Local Stakeholder - entrepreneur | agriculture	

2.4 Site Visits

Site Locations: Monrovia, Liberia

A site visit was undertaken by the validation team on 21-April-2023 to carry out the following:

- An assessment of the project design, project location, status of the proposed project activity as per the PD.
- A cross check between information provided in the PD and relevant data sources.
- A review of calculations and assumptions made in determining the GHG data and emission reductions.

The assessment team has verified sufficient appropriate audit evidence, to reduce audit risk to an acceptably low level as requisite to achieve reasonable level of assurance.

2.5 Resolution of Findings

This section summarizes the findings from the validation of the large-scale project activity. In this section the findings from the document review, site visit, assessments and interviews are provided.

Material discrepancies identified in the course of the validation are addressed either as CARs, CLs or FARs.

Corrective action requests (CAR) are issued, where:

i. mistakes have been made with a direct influence on project results requiring adjustments of the VERs/VCUs monitoring report;

ii. applicable methodological specific requirements have not been met.

A **Clarification request (CL)** may be used where additional information is needed to fully clarify an issue or where the information is not transparent enough to establish whether a requirement is met.

A **forward action request (FAR)** should be issued, where:

i. the actual project monitoring and reporting practices requires attention and /or adjustment for the next consecutive verification period, or
ii. an adjustment of the MP is recommended.

In the context of FARs, risks have been identified, which may endanger the delivery of high-quality emissions reductions in the future, i.e. by deviations from standard procedures as defined by the MP. Therefore, such aspects should receive a special focus during the next consecutive verification. A FAR may originate from lack of data sustaining claimed emission reductions.

A total of 07 CARs and 04 CLs were raised and closed successfully for the validation of the large-scale project activity. Please refer to Appendix 4 below for the details of the CARs/CLs and their closure.

2.5.1 Forward Action Requests

No Forward action requests have been raised during the course of validation.

3 VALIDATION FINDINGS

3.1 Project Details

The project “Improved Cookstoves in Liberia” is a project which employs baseline and monitoring methodology; VMR0006 version 1.1 /B07/. The project involves dissemination of fuel-efficient improved cook stoves (ICS) in Liberia. This project aims distribution of 500,000 ICS in the Liberia over the crediting period and includes dissemination of CH2200 /EcoSaver Charcoal, CH5300/SuperSaver Charcoal, and M5000/SuperSaver Wood ICS.

The project results in reducing the amount of non-renewable biomass used for cooking. Through reduction in non-renewable biomass consumption, the programme will decrease greenhouse gas emissions. Section 1.1. of the VCS PD contains a clear summary description of the project. The completeness and accuracy of the project description was validated through on-site visit interviews.

The project proponent is Carbonibus S.r.l. /07/. PP has demonstrated the ownership of the project activity and documents showing proof of title and ownership of the emission reductions. /13/

The start date of the large-scale project is15-May-2023, which is the expected date of installation of the first ICS under the project activity /17/.

The start date of the first crediting period is 15-May-2023 and end date is 14-May-2030. PP has chosen a renewable crediting period of 7 years, twice renewable for a total of 21 years.

According to section 3.10.1 of the VCS Standard (v 4.4) /B01/,

"Project size categorizations are as follows: 1) Projects: Less than or equal to 300,000 tonnes of CO_2e per year. 2) Large projects: Greater than 300,000 tonnes of CO_2e per year." Therefore, the scale of the project activity is "Large Project" as it is expected to generate more than 300,000 tonnes of CO_2e of GHG emission reductions per year. The estimated emission reductions over the crediting period is 11,392,289 tCO2e with an average of 1,627,469 tCO2e per year /02/.

The large-scale project location and geographic boundaries are those of Liberia, as stated in section 1.12 of the PD with the geodetic coordinates. The compliance with paragraph 3.6.8 of the VCS standard version 4.4 /B01/ will be checked at verification stage when, which requires each project activity instance under the proposed project activity to be within ten kilometers of another instance of the project activity and with the same project proponent.

The VCS PD clearly indicates the project scope, which is scope 3: Energy demand, and more specifically demand – side energy efficiency project. The project is not a grouped project but a project with multiple project activity instances which is indicated in section 1.2. of the VCS PD/01-3/.

The proposed large-scale project is an energy efficiency project and is located in a non-Annex I country. Therefore, the ER generated would not be part of an emission trading program, nor it is located in a jurisdiction or sector with binding limits. The project proponent intends to claim carbon credits under the VCS programme only for the emission reductions achieved. The PP states in the VCS PD that the emission reductions generated by this project will not be used for compliance with an emission-trading program or to fulfil binding commitments. In fact, at the time of validation, no binding targets have been set by Liberia under the Kyoto protocol, as indicated in the UNFCCC website /B08/.

The project proponent has declared that the project is not in registration under any other GHG program. The validation team has checked the UNFCCC Clean development mechanism (CDM), Gold standard (GS), and Global carbon council (GCC) database of registered projects or projects under validation / submitted projects and was able to confirm that the listed projects are not the proposed project activity.

The proposed project does not generate another form of environmental credit. The project proponent indicates in the VCS PD that the project does not intend to generate any other form of GHG related environmental credit other than those claimed under this VCS project.

ICS not only reduces non-renewable biomass consumption, resulting in emission reductions but also contributes to sustainable development in Liberia, which is demonstrated in section 1.17 of the PD.

Positions and responsibilities of the ACC monitoring team members.

Entity	Roles and responsibilities
Project Proponent / Implementer	Project implementation, ICS distribution and overall management and development of the project.
Local Partners/ Distribution Partners	Collecting and recording ICS information from end-users, as well as providing support and guidance to the PP in order to achieve the project's objectives.
Monitoring Staff/External third party	Responsible for appointing competent individuals to carry out monitoring activities in accordance with monitoring requirements and guidelines, utilizing suitable monitoring protocols, and properly managing
ICS Manufacturer or Supplier	Design and supply ICS to PP in accordance with the specifications/standards specified by PP as well as Provide technical specifications for the stove, including thermal efficiency, to PP.

3.2 Safeguards

3.2.1 No Net Harm

As identified by PP, the project has no negative impact which has been demonstrated in section 2.1 of the PD.

The validation team confirms that the project does not pose any potential negative environmental and socio-economic impacts. A local stakeholders meeting was conducted for the project and there was no negative feedback.

3.2.2 Local Stakeholder Consultation

Stakeholders had been directly asked to comment on the project through a physical meeting held at iCampus (The Wologisi Mountain Hall), Carey Street, Monrovia, Liberia, on 27-February-2023 /11/. The stakeholders were invited through various means to provide their feedback: an email invitation was sent to various stakeholders including Government officials, NGOs, local association leaders etc. An invitation letter was also published in the local newspaper to invite local stakeholders that are affected and interested in the project. Credible evidence for the invitations has been provided by the PP and assessed by the validation team which was found to be true. All comments are positive in nature. No adverse comments were received, and this is

addressed in the PD. This was also confirmed by the validation team during the on-site visit interview.

The validation team confirms on the procedure and method for engagement, method for documenting the outcomes of local stakeholders' consultation and account of all inputs received. Based on the interviews with the local stakeholders, the validation team confirms that the feedback register/21/is maintained at the local office locations as a part of on-going communication mechanism. The validation team confirms that the project proponent has taken due account of all input (no negative comments were received for the project). Hence the validation team deemed the local stakeholders meeting procedure including the inputs received as appropriate.

3.2.3 Environmental Impact

No negative environmental impacts have been identified from the project and environmental impact assessment (EIA) is not required for the project.

3.2.4 Public Comments

The public commenting period for the project was from 04-April-2023 to 04-May-2023. No public comments were received for the project.

3.2.5 AFOLU-Specific Safeguards

Not Applicable.

3.3 Application of Methodology

3.3.1 Title and Reference

The Large-scale Project provides for projects one of the VCS approved methodology:

- VMR0006. "Methodology for Installation of High Efficiency Firewood Cookstoves, (Version 1.1)" /B07/

The associated tools and guideline documents in the Large-scale Project include:

- CDM TOOL30 "Calculation of the fraction of non-renewable biomass" version 03.0 /B09/

3.3.2 Applicability

The project applies VCS methodology; VMR0006, version 1.1/B07/. Applicability criteria for the baseline line methodology are assessed by the validation team by means of document review

and interview. Validation team confirms that the project activity meets the criteria of the applied methodology.

No.	Relevant applicability condition	Compliance with large-scale project	Means of validation
1.	Project activities shall be implemented in domestic premises, or in community-based kitchens.	The proposed project involves deployment of ICS in domestic households and communities in Liberia.	The Validation team through document review and on-site visit interviews can confirm that the improved cook stoves will only be distributed in the domestic households and communities thereby confirming the methodology applicability condition.
2.	The project stove shall have specified high-power thermal efficiency of at least 25% per the manufacturer's specifications and shall exclusively use woody biomass and can be single pot or multi-pot;	ICS planned to be distributed under the project are energy efficiency cookstove using woody biomass as fuel and have an efficiency more than 25%.	The validation team has reviewed the technical specifications of stoves to be distributed under the project activity /4/ which confirms that the ICS distributed to the end users has more than 25% efficiency. This is deemed appropriate to the Validation team.
3.	Both 'Projects' and 'Large Projects' can use this methodology	The proposed project is a large-scale project as the annual emission reduction is more than 300,000 tonnes of CO2e per year which is in line with the section 3.10.1 of VCS standard version 4.4.	The validation team has reviewed the calculation used to determine the estimated average annual GHG emission reduction for the proposed project which is more than 300,000 tCO_2e /2/. Therefore, the scale is Large Project as per section 3.10.1 of the VCS standard (Version 4.4).
4.	Non-renewable biomass has been used in the project region since 31 December 1989, using	According to Global FRA 2020 Report Liberia, there has been a decrement in the forest area in the Liberia since 1990.	The validation team reviewed the Global FRA 2020 Report Liberia /19/ which demonstrates the

	survey methods or referring to published literature, official reports or statistics.	Further as per Global Forest Watch (database by World Resources Institute), from 2001 to 2021, Liberia lost 2.05Mha of tree cover, equivalent to a 22% decrease in tree cover since 2000. This substantiates that non- renewable biomass has been in use in the Liberia since 1989.	use of non-renewable biomass since 1989 in Liberia. This is deemed appropriate to the Validation team.
5.	For the specific case of biomass residues processed as a fuel (e.g., briquettes, wood chips), it shall be demonstrated that: 1. It is produced using exclusively renewable biomass (more than one type of biomass may be used). 2. The consumption of the fuel should be monitored during the crediting period and 3. Energy use for renewable biomass processing (e.g., shredding and compacting in the case of briquetting) may be considered as equivalent to the upstream emissions associated with the processing of the displaced fossil fuel and hence disregarded	The project does not envisage use of processed biomass. In the case where processed biomass residues are used in the project, the following will be ensured: 1. It is renewable biomass. 2. Its consumption will be monitored. 3. If renewable biomass processing (e.g., shredding and compacting in the case of briquetting) occurs in project case, the energy consumption for manufacturing and transportation of renewal biomass fuel (briquettes) will be monitored to calculate project emissions.	The usage of biomass residues and the demonstration of the 3 criteria, under the project will be checked at verification stage.
6.	The VCS PD shall explain the proposed method for distribution of project devices including the method to avoid double counting of emission reductions such as unique identifications of product and	The ICS installation database will have the following provisions to ensure complete avoidance of double counting: 1. Unique serial number of ICS distributed; and	The validation team by means of document review and onsite visit interviews confirms that the proposed method for distribution of project devices includes the method to avoid double counting of emission reductions such as

	end-user locations (e.g. programme logo).	2. End users' details (End username, address, and/or telephone number (if available))	unique identifications of product and end-user details (name, address etc.). PP has provided end user agreement template which has been reviewed by the validation team and found to be acceptable. This criterion will be checked at verification stage post distribution of project stoves.
7.	The VCS PD shall also explain how the proposed procedures prevent double counting of emission reductions, for example to avoid that project stove manufacturers, wholesale providers or others claim credit for emission reductions from the project devices.	At the time of ICS distribution, each ICS beneficiary transfers the rights of credit ownership to PP via an agreement or disclaimed via clear statement on the product packing or warranty card thereby avoiding any subsequent double claim on ownership of credits by other entities.	The validation team by means of document review and on-site visit interviews confirms that the proposed procedures prevent double counting of emission reductions. This criterion will also be checked at the verification stage post distribution of project stoves.

Applicability conditions of CDM TOOL 30 (version 3.0):

No.	Relevant applicability condition	Compliance with large-scale project	Means of validation
1.	This tool may be used by: a) DNAs to submit region/country-specific default fNRB values, following the procedures for development, revision, clarification, and update of standardized	This tool is used by the project participants to calculate a project specific value for f_{NRB} under option (b) of applicability condition 1.	PP has used this tool to calculate project specific f_{NRB} value. All the references and data sources used for calculation has been assessed by the validation

	baselines (SB procedures); or b) Project participants to calculate project or PoA-specific f_{NRB} values.		team which was found to be acceptable. /18/
2.	For project or PoA specific f_{NRB} values, project participants shall assess the area where biomass is sourced for end-users included in the project activity and justify the selection of the area in project design documents.	The area for the calculated value is selected within the geographical boundary of Project.	The geographical boundary of the large-scale project is Liberia, and the selection of this area has been justified in section 1.12 of the PD.

3.3.3 Project Boundary

The Project boundary is defined as per VMR0006. "Methodology for Installation of High Efficiency Firewood Cookstoves, (Version 1.1)." /B07/

The sources of greenhouse gas identified in the PD/01-3/ are deemed to be appropriate and assessed below:

Source		Gas	Included?	Justification/Explanation
Baseline	Emission from use of non-renewable biomass/Fossil fuel	CO_2	Yes	Major Source
		CH_4	Yes	Major Source
		N_2O	Yes	Major Source
		Other	No	No other source identified
Project	Emission from use of non-renewable biomass/Fossil fuel	CO_2	Yes	Major Source
		CH_4	Yes	Major Source
		N_2O	Yes	Major Source
		Other	No	No other source identified

The project boundary for the large-scale project consists of the physical, geographical locations of the distributed ICS limited to within Liberia. This includes the areas from which non-renewable biomass used by the project cooking system is sourced.

3.3.4 Baseline Scenario

According to section 6 of the applied methodology VMR0006 version 1.1 /B07/, *"The baseline scenario is the continued use of non-renewable wood fuel (firewood/charcoal) or fossil fuel (coal/kerosene) by the target population to meet similar thermal energy needs as provided by project cookstoves in absence of project activity".* The baseline described in the PD complies with the requirements of the methodology, as the energy baseline is the existing level of consumption of non-renewable biomass used by the cooking systems currently in use and which is used in the absence of the project activity.

Validation team based on review of the VCS PD/01-3/ confirms that the documentary evidence used in determining the above baseline scenarios are relevant, and correctly quoted and interpreted in the project description. The baseline scenarios for the applied methodology were also confirmed through on-site visit interviews with the end users of technologies and representatives of PP.

Validation team confirms that the baseline scenario opted by the project activity is in accordance with the requirements of the applied methodology /B07/ and is justified.

3.3.5 Additionality

The additionality of the proposed project has been demonstrated by the PP as per the methodology section 7 /B07/. The methodology uses activity method for the demonstration of additionality. As per the methodology, the large-scale project activity falls under the positive list of technologies and project activity types that are defined as automatically additional. PP has demonstrated regulatory surplus in accordance with the rules and requirements regarding regulatory surplus set out in the latest version of the VCS Standard and it can be confirmed that the project is not mandated by any law, statute or other regulatory framework, or for UNFCCC non-Annex I countries, any systematically enforced law, statute or other regulatory framework.

Furthermore, the project meets all the applicability conditions of the applied methodology VMR0006, version 1.1 /B07/ and distributes stoves at zero cost to the end-users and has no other source of revenue other than the sale of GHG credits. The proposed project is not implemented as a part of any government scheme or supported by multilateral funds. Hence the project qualifies under positive list and deemed additional. Therefore, the validation team confirms that the large-scale project is additional.

3.3.6 Quantification of GHG Emission Reductions and Removals

The equations and choices provided in the methodology and all other methodological tools are correctly quoted in the PD/01-3/. The emission reductions of the project would be calculated using the formulae mentioned in the applied methodology; VMR0006 (version 1.1)/B07/.

Validation team based on the review of the PD /01-3/, confirms that the formulae are correctly presented for the determination of emissions reductions at project level. The parameters and equations presented in the PD/01/, as well as other applicable documents, have been compared with the information and requirements presented in the methodology respectively. An equation comparison has also been made to ensure consistency between all the formulae presented in the PD/01-3/ and ER spreadsheet/02/ and methodology VMR0006 (version 1.1)/ B07/.

According to applied methodology VMR0006 (version 1.1) /B07/ the emissions are calculated as below:

The improved cookstove is introduced as energy efficiency measure in the project, therefore equations 1 and 2 of the methodology will be applied to calculate the net GHG emission reductions.

$$\boldsymbol{ER_y = \sum_i \sum_j ER_{y,i,j}}$$

Where:

i	=	*Indices for the situation where more than one type/model of improved cook stove is introduced to replace the baseline stove*
j	=	*Indices for the situation where there is more than one batch of improved cook stove of type i*
ER_y	=	*Emission reductions during year y in t CO_2e*
$ER_{y,i,j}$	=	*Emission reductions by improved cook stove of type I and batch j during year y in t CO_2e*

$$\boldsymbol{ER_{y,i,j} = B_{y,savings,i,j} \times f_{NRB,y} \times NCV_{wood\ fuel} \times (EF_{wf,CO2} + EF_{wf,non\ CO2}) \times N_{y,i,j} \times 0.95}$$

Where:

$B_{y,savings,i,j}$	=	*Quantity of woody biomass that is saved in tonnes per improved cook stove of type i and batch j during year y*
$f_{NRB,y}$	=	*Fraction of woody biomass that can be established as non-renewable biomass (f_{NRB})*

$NCV_{wood\ fuel}$	=	*Net calorific value of the non-renewable woody biomass that is substituted or reduced (IPCC default for wood fuel, 0.0156 TJ/tonne)*
$EF_{wf,CO2}$	=	*CO_2 emission factor for the use of wood fuel in baseline scenario (IPCC default for wood fuel, 112 tCO_2/TJ)*
$EF_{wf,non\ CO2}$	=	*Non-CO_2 emission factor for the use of wood fuel in baseline scenario (IPCC default for wood fuel, 26.23 tCO_2/TJ)*
$N_{y,i,j}$	=	*Number of improved cook stoves of type i and batch j operating during year y*
0.95	=	*Discount factor to account for leakage*

The quantity of woody biomass saved due to implementation of improved cookstoves to be estimated using equation below:

$$\boldsymbol{B_{y,savings,i,j} = B_{y=1,new,i,survey} \times \left(\frac{\eta_{new,y,i,j}}{\eta_{old}} - 1\right)}$$

Where:

$B_{y=1,new,i,survey}$	=	Annual quantity of woody biomass used by improved cookstoves in tonnes per device of type i and batch j, determined in the first year of the implementation of the project through a sample survey
η_{old}	=	Efficiency of baseline cookstove
$\eta_{new,i,y}$	=	Efficiency of the improved cook stove type i and batch j determined through water boiling test (WBT). efficiency may be determined using Equation 5.

$$\boldsymbol{\eta_{new,i,y} = \eta_p \times (DF_n)^{y-1} \times 0.94}$$

Where:

η_p	=	Efficiency of project stove (fraction) at the start of project activity
$(DF_n)^{y-1}$	=	Discount factor to account for efficiency loss of project cookstove per year of operation (fraction). This value may be based on actual monitoring or based on manufacturer's declaration on expected loss in efficiency or through publicly available literature on relevant industry standards. Alternatively, a default value of 0.99 efficiency loss per year can be considered.
0.94	=	Adjustment factor to account for uncertainty related to project cookstove efficiency test.

This large-scale project would achieve a total emission reduction of 11,392,289 tCO_2e in the 7-year crediting period and an average of 1,627,469 tCO_2e per year as indicated in the VCS PD /01-3/ and in the ER spread sheet /02-2/.

In conclusion, all values, including parameters fixed ex-ante, used to calculate emission reductions are considered reasonable and appropriate in the context of the proposed project "Improved Cookstoves in Liberia" and calculation approach is correct.

3.3.7 Methodology Deviations

No methodology deviations have been applied to the proposed project.

3.3.8 Monitoring Plan

The large-scale project has correctly applied the approved baseline and monitoring methodology VMR0006, version 1.1 titled "Methodology for Installation of High Efficiency Firewood Cookstoves". The monitoring plan provides detailed information related to the collection and archiving of all relevant data needed to:

- Estimate or measure emissions occurring from GHG sources, sinks and reservoirs
- Determine the baseline emissions

The monitoring plan as per VMR0006, version 1.1 has been clearly described in section 5 of the VCS PD. It covers all the monitoring parameters required to monitor by the proposed project and emission reductions due to the project accurately.

The monitoring plan/procedure followed to measure the emission reduction is applied accurately and with a conservative approach.

Parameters Determined ex-ante

The following parameters are determined ex-ante and mentioned in section 5.1 of the PD:

<table>
<tr><th>Parameter</th><th>Unit</th><th>Value</th><th>Assessment</th></tr>
<tr><td>η_p

Efficiency of project stove at the start of project activity</td><td>Fraction</td><td><table><tr><th>Stove</th><th>η_p</th></tr><tr><td>CH2200/EcoSaver Charcoal</td><td>52.40 %</td></tr><tr><td>CH5300/SuperSaver Charcoal</td><td>56.20 %</td></tr><tr><td>M5000/Super Saver Wood</td><td>38.30 %</td></tr></table></td><td>- Fixed ex-ante
-These values are based on manufacturers specification /04/</td></tr>
<tr><td>f_{NRB}</td><td>Fraction</td><td>0.8835</td><td>- Fixed ex-ante</td></tr>
</table>

Fraction of woody biomass that can be established as non-renewable biomass			- This value is calculated in line with the applicable methodological CDM Tool 30, version 3.0. The calculation is demonstrated in an excel sheet which has been assessed by the validation team and was found to be acceptable. /18/
$NCV_{wood\ fuel}$ Net calorific value of the non-renewable woody biomass	TJ/tonne	0.0156	- Fixed ex-ante - This is a methodology default value /B07/
$EF_{wf,CO2}$ CO_2 Emission factor for the fossil fuels projected to be used for substitution of non-renewable woody biomass	tCO_2/TJ	112	- Fixed ex-ante - This is a methodology default value /B07/
$EF_{wf,non\ CO2}$ CO_2 Emission factor for the fossil fuels projected to be used for substitution of non-renewable woody biomass	tCO_2/TJ	26.23	- Fixed ex-ante - This is a methodology default value /B07/
η_{old} Efficiency of baseline cookstove	Fraction	0.10 for Firewood 0.20 for Charcoal	- Fixed ex-ante - The source of the value applied for the parameter is is the default value as per the applied methodology. /B07/

<table>
<tr><td></td><td></td><td></td><td>- Given that the parameter value is the default value from the applied methodology, applying the default value enables the parameter value to be fixed ex-ante at validation (either 0.1 or 0.2) rather than being monitored.
Hence, this is found to be acceptable by the validation team.</td></tr>
<tr><td>DF_n

Discount factor to account for efficiency loss of project cookstove per year of operation (fraction).</td><td>Fraction</td><td>0.99</td><td>- Fixed ex-ante

- This is a methodology default value /B07/</td></tr>
<tr><td>$\eta_{new,i,j}$

Efficiency of the device of each type i and batch j implemented as part of the project activity</td><td>Fraction</td><td>38.30% for Wood

54.30% for Charcoal

As per equation (5) above the applicable efficiency of two example ICS models to be used in Ex-post ER calculations is as follows:
<table>
<tr><th>Age of stove</th><th>$\eta_{ne,M5000/SuperSaver\ Wood}$</th><th>$\eta_{ne,CH2200/EcoSaver\ Charcoal}$</th><th>$\eta_{new,CH5300/SuperSaver\ Charcoal}$</th></tr>
<tr><td>0-1 year</td><td>36.00%</td><td>49.26%</td><td>52.83%</td></tr>
<tr><td>1-2 year</td><td>35.64%</td><td>48.76%</td><td>52.30%</td></tr>
</table></td><td>- Fixed ex-ante

- This value is a weighted average efficiency value of the firewood and charcoal ICS which is used for ex-ante calculation only. The loss of efficiency per year for this weighted average value is calculated using equation (5) of the applied methodology.</td></tr>
</table>

		2-3 year	35. 29%	48. 28%	51. 78%	
		3-4 year	34. 93%	47. 79%	51. 26%	
		4-5 year	34. 58%	47. 32%	50. 75%	
		5-6 year	34. 24%	46. 84%	50. 24%	
		6-7 year	33. 90%	46. 37%	49. 74%	

Parameters Monitored ex-post

Monitoring of the project activity involves all the parameters necessary for calculation of GHG emission reduction by the proposed project activity. These parameters are mentioned in section 5.2 of the PD. The parameters, which are to be monitored include:

Parameter	Unit	Value	Assessment
$N_{y,i,j}$ Number of project devices of type i and batch j operating during year y	Number	500,000	This parameter will be monitored at least once every two years based on the monitoring survey.
$B_{y=1,new,i,survey}$ Annual quantity of woody biomass used by improved cookstoves in tonnes per device of type i, determined in the first year of the implementation of the project through a sample survey	tonnes/device/year	For ex-ante calculation purpose, the value is assumed as 0.90 tonnes/device/year for firewood 0.36 tonnes/device/year for charcoal	This parameter will be determined in the first year of project implementation
Life Span	Number of years	7.0	The life span of the stove is based on stove manufacturer's specifications and will be monitored

			once at the time of project stove installation. If the stove life is less than the crediting period, then the PP will either replace the ICS after the end of its life with an equivalent device to continue claim credits or otherwise shall cease claiming credits after the rated lifespan.

The PP will conduct representative sampling as part of a sampling plan in accordance with the methodology applied and the Standard: Sampling and surveys for CDM project activities and programme of activities, version 9.0. The sampling methodology will be in accordance with the sampling guidelines and standards as specified in section 5.3 of the VCS PD.

The sampling objective for each parameter is to determine a statistically significant parameter value for the emission reduction calculations through a sampling survey. The parameters to be monitored as listed in section 5.2 of the VCS PD are:

No.	Monitoring Parameters	Sampling Parameters	Parameter type	Monitoring frequency
1	$N_{y,i,j}$	Proportion of operational ICS	Proportion	Biennially
2	$B_{y=1,\ new,i,j,survey}$	Quantity of woody biomass used by project devices	Mean	First year of project implementation

Detailed responsibilities and authorities for project management, monitoring procedures, calibration procedures and QA/QC procedures have been presented and were verified during follow up interviews. The detailed monitoring practice is considered appropriate and the implementation of these will enable subsequent verification of the project's emission reductions.

All relevant data will be archived electronically and further maintained for the entire crediting period plus two years. Based on the above assessment the validation team concludes that the PP is capable to implement the monitoring plan and hence confirms compliance of VCS guidelines and the applied methodology /B07/.

3.4 Non-Permanence Risk Analysis

This is not applicable to the project activity as the Project is not an AFOLU (Agriculture, Forestry and Other Land Use) project.

4 VALIDATION OPINION

The Project Participant, Carbonibus S.r.l has commissioned Carbon Check (India) Private Ltd. (CCIPL) to validate the large-scale project "IMPROVED COOKSTOVES IN LIBERIA", with regard to VCS Version 4 requirements and the information provided by the project proponent related to the project design, operation, monitoring and reporting.

CCIPL has reviewed the project description documents and subsequently carried out site visit interviews to confirm the fulfilment of stated criteria. The project intends to reduce GHG emissions by disseminating energy-efficient improved cookstoves (ICS) to replace existing traditional Cookstoves in domestic households and communities in Liberia. A risk-based approach has been followed to perform this validation. In the course of validation, 07 CARs and 04 CLs are raised which have been resolved by the PP.

The project activity has applied the baseline and monitoring methodology, VMR0006 version 1.1: "Methodology for Installation of High Efficiency Firewood Cookstoves" /B07/, which is an approved methodology under the VCS programme. The baseline has been determined in accordance with the stated approved baseline methodology.

Analysis of the proposed project activity reveals that the emission reductions resulting from the project activity are real, measurable and give long term benefits and are additional to what would have occurred in the absence of the large-scale project. The annual average emission reductions from the project activity are estimated to be 1,627,469 tCO_2e per annum. The emission reductions forecast has been checked and is deemed likely that the stated amount is likely to be achieved given that the underlying assumptions do not change.

The monitoring plan makes sufficient provision for monitoring relevant project and baseline emission indicators. Responsibilities and authorities for project management, monitoring and reporting and QA/QC procedures have also been addressed.

Based on the information provided by the project developer, it is CCIPL's opinion that the project, "Improved Cookstoves in Liberia" in Liberia as described in the VCS PD, Version 03.0 dated 13-July-2023 /01-3/, meets all relevant VCS Version 4 requirement and correctly applied approved baseline and monitoring VCS methodology VMR0006, version 1.1 /B07/.

CCIPL's validation opinion is purely based on the information made available to us by the project proponent during the course of validation and hence CCIPL cannot guarantee the accuracy or correctness of the information. Keeping this in mind, no party can hold CCIPL liable for any decisions made or not made in this report.

Year	Estimated GHG emission reductions or removals (tCO_2e)
Year 1	252,593
Year 2	745,948
Year 3	1,468,467
Year 4	1,927,029
Year 5	2,370,514
Year 6	2,332,624
Year 7	2,295,114
1,13,92,289Total estimated ERs	**11,392,289**
Total number of crediting years	**7**
Average annual ERs	**1,627,469**

APPENDIX 1.1: REFERENCE DOCUMENTS

Ref	Document
/01/	1. VCS PD version 01, dated 21-February-2022 2. VCS PD version 02, dated 30-April-2023 3. VCS PD version 03, dated 13-July-2023
/02/	ER calculation spreadsheet, version 1.0 ER calculation spreadsheet, version 2.0
/03/	Contract with stove manufacturers
/04/	Technical specifications of the project stoves including their efficiency (CH2200 /EcoSaver Charcoal 52.4%, CH5300/SuperSaver Charcoal 56.2%, and M5000/SuperSaver Wood 38.3% efficiency)
/05/	Copies of all the relevant Statutory clearances
/06/	Declaration(s) from Project proponent on the following: a) Project not registered or under process of registration in any other Emissions Trading Programs and Other Binding Limits. b) Project not registered or under process of getting and Other Forms of Environmental Credit c) The project has not been registered and is not seeking registration under any other GHG program d) Projects not Rejected by Other GHG Programs e) No ODA funding for the project f) Project is not implemented as part of government schemes or not supported by multilateral funds nor rejected by any other GHG scheme
/07/	Contract in between Carbonibus S.r.l (project proponent), Envirofit International (Project Implementer), and Climate Secure
/08/	Credible evidence for demonstration of the baseline scenario.
/09/	Company registration certificate for the PP
/10/	Evidence for each of the applicability criteria of the applied methodology and the relevant tools
/11/	Local stakeholders meeting related evidence: newspaper notice, email invitations, letter invitations, attendance sheet, presentation, photos, feedback forms, and minutes of meeting .
/12/	Credible evidence for demonstration of additionality for the project activity: Stove distributed at zero cost
/13/	Evidence for project ownership
/14/	Evidence for the considered values for each of the ex-ante parameters
/15/	Organisation structure

/16/	Evidence for the sample unique serial numbering for the ICS to be distributed
/17/	Evidence for the Start date of the proposed project 15th May 2023 (Expected Date for installation of 1st ICS under the project)
/18/	Calculation of fNRB along with all supporting evidence
/19/	The Global Forest Resource Assessment 2020, Country Report – Liberia
/20/	Liberia DHS-2018
/21/	Grievance Register

APPENDIX 1.2: BACKGROUND DOCUMENTS

	Document
/B01/	VCS Standard (v4.4)
/B02/	VCS Program Guide (v4.3)
/B03/	VCS Validation and Verification Manual version 3.2
/B04/	Registration & Issuance Process (v4.3)
/B05/	VCS Programme Definitions version 4.3
/B06/	VCS PD template version 4.2
/B07/	Applied baseline and monitoring methodology, VMR0006 (version 1.1)
/B08/	https://cdm.unfccc.int/
/B09/	CDM Tool 30: Calculation of the fraction of non-renewable biomass, Version 3.0

APPENDIX 2: ABBREVIATIONS

CDM	Clean Development Mechanism
BE	Baseline Emission
CAR	Corrective Action Request
CCIPL	Carbon Check (India) Private Ltd.
CDM	Clean Development Mechanism
CL	Clarification Request
CO_2	Carbon Dioxide
CO_{2e}	Carbon Dioxide Equivalent
DOE	Designated Operational Entity
DVR	Draft Validation Report
EB	CDM Executive Board
EF	Emission Factor
ER	Emission Reduction
FAR	Forward Action Request
FVR	Final validation Report
GHG	Greenhouse gas(es)
GWh	Giga Watt Hour
IPCC	Intergovernmental Panel on Climate Change
NA	Not Applicable
OSV	On Site Visit
PA	Project Activity
PAI	Project Activity Instance
PD	Project Description
PP	Project Proponent
QC/QA	Quality control/Quality assurance
TR	Technical Review
UNFCCC	United Nations Framework Convention on Climate Change

VCS	Verified Carbon Standard
VCSA	Verified Carbon Standard Association
VCU	Verified Carbon Unit
VVB	Validation/Verification Body
VVM	Validation and Verificatoin Manual
VVS	Validation and Verification Standard

APPENDIX 3: CERTIFICATES OF COMPETENCE

Carbon CHECK

Carbon Check (India) Private Limited

Certificate of Competency

Mr. Sanjay Agarwalla

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:

☒ Validator	☒ Verifier	☒ Team Leader	☒ Technical Expert
☒ Technical Reviewer	☐ Health Expert	☐ Gender Expert	☐ Plastic Waste Expert
☒ SDG+	☒ Social no-harm(S+)	☒ Environment no-harm(E+)	☐ CCB Expert
☒ Financial Expert	☒ Local Expert for India		

in the following Technical Areas:

☒ TA 1.1	☒ TA 1.2	☐ TA 2.1	☒ TA 3.1	☒ TA 4.1
☐ TA 4. n	☒ TA 5.1	☒ TA 5.2	☐ TA 7.1	☐ TA 8.1
☒ TA 9.1	☒ TA 9.2	☒ TA 10.1	☒ TA 13.1	☒ TA 13.2
☐ TA 14.1	☐ TA 15.1			

Issue Date
1st January 2023

Expiry Date
31st December 2023

Mr. Vikash Kumar Singh
Compliance Officer

Mr. Amit Anand
CEO

CCIPL_FM 7.9 Certificate of Competency_V2.1_012023

Carbon CHECK

Carbon Check (India) Private Limited

Certificate of Competency

Mr. Dinesh Mane

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:

☒ Validator	☒ Verifier	☒ Team Leader	☒ Technical Expert
☐ Technical Reviewer	☐ Health Expert	☐ Gender Expert	☐ Plastic Waste Expert
☒ SDG+	☒ Social no-harm(S+)	☒ Environment no-harm(E+)	☐ CCB Expert
☒ Financial Expert	☒ Local Expert for India		

in the following Technical Areas:

☐ TA 1.1	☒ TA 1.2	☐ TA 2.1	☐ TA 3.1	☐ TA 4.1
☐ TA 4. n	☐ TA 5.1	☐ TA 5.2	☐ TA 7.1	☐ TA 8.1
☐ TA 9.1	☐ TA 9.2	☐ TA 10.1	☐ TA 13.1	☐ TA 13.2
☐ TA 14.1	☐ TA 15.1			

Issue Date
1st January 2023

Expiry Date
31st December 2023

Mr. Vikash Kumar Singh
Compliance Officer

Mr. Amit Anand
CEO

CCIPL_FM 7.9 Certificate of Competency_V2.1_012023

Carbon CHECK

Carbon Check (India) Private Limited

Certificate of Competency

Mr. Shivaji Chakraborty

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:

☐ Validator	☐ Verifier	☐ Team Leader	☒ Technical Expert
☒ Technical Reviewer	☐ Health Expert	☐ Gender Expert	☐ Plastic Waste Expert
☒ SDG+	☒ Social no-harm(S+)	☒ Environment no-harm(E+)	☐ CCB Expert
☒ Financial Expert	☒ Local Expert for India		

in the following Technical Areas:

☒ TA 1.1	☒ TA 1.2	☐ TA 2.1	☒ TA 3.1	☐ TA 4.1
☐ TA 4. n	☐ TA 5.1	☐ TA 5.2	☐ TA 7.1	☐ TA 8.1
☐ TA 9.1	☐ TA 9.2	☐ TA 10.1	☐ TA 13.1	☐ TA 13.2
☐ TA 14.1	☐ TA 15.1			

Issue Date
1st January 2023

Expiry Date
31st December 2023

Mr. Vikash Kumar Singh
Compliance Officer

Mr. Amit Anand
CEO

CCIPL_FM 7.9 Certificate of Competency_V2.1_012023

APPENDIX 4: FINDINGS LOG

Table 1. CLs from this Validation

CL ID	01	**Section no.**	3.1	**Date:** 21/04/2023
Description of CL				
In section 1.17 of the PD, PP needs to clarify how the project level indicator aligns with the corresponding UN level indicator for SDGs 1, 3, and 4.				
Project Proponent's response				**Date:** 30/04/2023
For SDG 1 and 3, the project specific indicators have now been defined in the revised PD in section 1.17 The project shall contribute to SDG 4 by providing informal and formal trainings to resources involved in the project activity. Thus, the project is clearly aligned with SDG indicator 4.3.1 i.e. Participation rate of youth and adults in formal and non-formal education and training in the previous 12 months, by gender.				
Documentation provided by Project Proponent				
Verra VCS 4219 Liberia PD ver 2.0 30042023				
VVB assessment				**Date:** 03/05/2023
Section 1.17 of the PD has now been revised by the PP to define relevant project level indicators for SDGs 1 and 3, as well as the PP has provided clarification on how the project level indicator correlates with the corresponding UN level indicator for SDG 4. This has been validated and found to be acceptable. CL 01 is closed.				

CL ID	02	**Section no.**	3.2.1	**Date:** 21/04/2023
Description of CL				
As per section 2.1 of the VCS PD template (version 4.2), PP needs to summarize any potential negative environmental and socio-economic impacts and the steps taken to mitigate them. In the PD, PP has stated that there are no potential negative socio-economic impacts are generated by the project. Considering this, PP needs to justify the relevance of risk assessment conducted in the aforementioned section of the PD.				
Project Proponent's response				**Date:** 30/04/2023
No potential negative socio-economic impacts are envisaged in the project. PP has presented a comprehensive Net No Harm assessment, listing various requirements, discussing their relevance to project and, mitigation measure required in case of negative impacts. It can be seen from the table provided that the project has no potential negative environmental and socio-economic impacts.				
Documentation provided by Project Proponent				
VVB assessment				**Date:** 03/05/2023
PP has now included a summary of any potential negative environmental and socio-economic impacts as well as the steps taken to mitigate them in the table, under section 2.1 of the revised PD. CL 02 is closed.				

CL ID	03	**Section no.**	3.1	**Date:** 21/04/2023
Description of CL				
PP is requested to clarify whether the proposed project activity is implemented or not as the start date in the PD is mentioned as 1st March 2023.				
Project Proponent's response				**Date:** 30/04/2023
This project activity was originally scheduled to begin on 1st March 2023 but has not been implemented yet. It will now begin in mid-May 2023. PD has been revised accordingly.				
Documentation provided by Project Proponent				
Verra VCS 4219 Liberia PD ver 2.0 30042023				

VVB assessment	**Date:** 03/05/2023
PP has revised the start date of the proposed project in accordance with the clarification provided, and this has been deemed acceptable by the validation team. CL 03 is closed.	

CL ID	04	**Section no.**	3.3	**Date:** 21/04/2023
Description of CL				
PP is requested to clarify the source of the assumed values for $B_{y=1,new,i,j,survey}$, with reference to section 5.2 of the PD and the ER calculation spreadsheet.				
Project participant response				**Date:** 30/04/2023
The value has been assumed only for ex-ante calculation purpose based on PP's professional judgement and experience. This parameter will be monitored in the first year and shall be used for ex-post calculations.				
Documentation provided by the Project proponent				
Verra VCS 4219 Liberia PD ver 2.0 30042023				
VVB assessment				**Date:** 03/05/2023
The clarification provided by the PP for the source of the assumed value for By=1,new,i,j,survey, has been deemed acceptable with reference to section 5.2 of the revised PD. CL 04 is closed.				

Table 2. CARs from this Validation

CAR ID	01	**Section no.**	-	**Date:** 21/04/2023
Description of CAR				
On the cover page of the PD, physical address must be provided under contact as per the VCS PD template (version 4.2) requirement.				
Project Proponent's response				**Date:** 30/04/2023
Cover page of the PD has been revised to include the physical address under section contact.				
Documentation provided by Project Proponent				
Verra VCS 4219 Liberia PD ver 2.0 30042023				
VVB assessment				**Date:** 03/05/2023
PP has revised the cover page of the PD to include physical address under contact as per the VCS PD template (version 4.2) requirement. CAR 01 is closed.				

CAR ID	02	**Section no.**	-	**Date:** 21/04/2023
Description of CAR				
The PD at several places refers to version 4.3 of the VCS Standard, which is not the latest applicable version. Therefore, PP is requested to update the PD in accordance with version 4.4 of the VCS standard, referencing updated sections of the standard in the PD as necessary.				
Project Proponent's response				**Date:** 30/04/2023
The PD has been revised to refer to version 4.4 of the standard.				
Documentation provided by Project Proponent				
Verra VCS 4219 Liberia PD ver 2.0 30042023				
VVB assessment				**Date:** 03/05/2023
PP now includes references to the latest version of the VCS Standard (Version 4.4) throughout the revised PD. CAR 02 is closed.				

CAR ID	03	**Section no.**	3.1	**Date:** 21/04/2023
Description of CAR				

In section 1.1 of the PD, PP needs to include a brief description of the scenario existing prior to the implementation of the project along with the details on the types of cookstoves used in the baseline scenario. In addition, PP needs to also add a summary description of the technologies/measures to be implemented by the project.
Project Proponent's response **Date:** 30/04/2023
Section 1.1 of the PD has been revised to add the pre-project scenario and baseline stove types.
Documentation provided by Project Proponent
Verra VCS 4219 Liberia PD ver 2.0 30042023
VVB assessment **Date:** 03/05/2023
PP has revised section 1.1 of the PD to include the required information which is deemed acceptable by the validation team. CAR 03 is closed.

CAR ID	04	**Section no.**	3.2.4	**Date:** 21/04/2023
Description of CAR				
In section 2.2 of the PD, PP needs to demonstrate the following to comply with the VCS PD template (version 4.2) requirement: • The procedures or methods used for engaging local stakeholders (e.g., dates of announcements or meetings, periods during which input was sought). • The procedures or methods used for documenting the outcomes of the local stakeholder consultation. • The mechanism for on-going communication with local stakeholders. • How due account of all and any input received during the consultation has been taken.				
Project Proponent's response				**Date:** 30/04/2023
Section 2.2 of the PD has been revised to elaborate on the stakeholder engagement in the project.				
Documentation provided by Project Proponent				
Verra VCS 4219 Liberia PD ver 2.0 30042023				
VVB assessment				**Date:** 03/05/2023
Section 2.2 of the PD has been revised by the PP to include the aforementioned information and comply with the requirements of the VCS PD template (version 4.2). CAR 04 is closed.				

CAR ID	05	**Section no.**	3.2.4	**Date:** 21/04/2023
Description of CAR				
PP needs to revise section 2.4 of the PD with respect to the public comment period.				
Project Proponent's response				**Date:** 30/04/2023
Section 2.4 of the PD has been revised to include the duration of the public comment period.				
Documentation provided by Project Proponent				
Verra VCS 4219 Liberia PD ver 2.0 30042023				
VVB assessment				**Date:** 03/05/2023
Section 2.4 of the revised PD has been satisfactorily updated by PP. CAR 05 is closed.				

CAR ID	06	**Section no.**	3.3.4	**Date:** 21/04/2023
Description of CAR				
In section 3.4 of the PD, PP needs to explain and justify key assumptions, rationale and methodological choices used to determine baseline scenario along with provision of all relevant references to comply with the VCS PD template (version 4.2) requirement.				
Project Proponent's response				**Date:** 30/04/2023
Section 3.4 of the PD has been revised accordingly.				
Documentation provided by Project Proponent				

Verra VCS 4219 Liberia PD ver 2.0 30042023	
VVB assessment	**Date:** 03/05/2023
PP has satisfactorily updated section 2.4 of the revised PD. CAR 06 is closed.	

CAR ID	07	**Section no.**	3.3.7	**Date:** 21/04/2023
Description of CAR				
In section 4.4 of the PD, PP needs to state the total and annual average of emissions reductions achieved for the proposed project activity.				
Project Proponent's response				**Date:** 30/04/2023
The VCS PD template version 4.2 contains a table in section 4.4 that allows for the recording of only the total emissions reductions value. Therefore, in section 4.4 only total emissions reductions value is stated which is in line with the template.				
Documentation provided by Project Proponent				
VVB assessment				**Date:** 03/05/2023
PP has now updated section 4.4 of the revised PD to incorporate the total and annual average emission reductions achieved for the proposed project activity. CAR 07 is closed.				

Table 3. FARs from this Validation

FAR ID	xx	**Section no.**		**Date:** DD/MM/YYYY
Description of FAR				
Project Proponent's response				**Date:** DD/MM/YYYY
Documentation provided by Project Proponent				
VVB assessment				**Date:** DD/MM/YYYY