INSTALLATION OF HIGH EFFICIENCY WOOD BURNING COOKSTOVES IN MALAWI

Document Prepared by

Carbon Check (India) Private Ltd.

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Summary:

A brief description of the validation and the project

Validation: C-Quest Capital Stoves Asia Limited has appointed Carbon Check (India) Private Ltd., to carry out the validation of the project "Installation of high efficiency wood burning cookstoves in Malawi", with regards to the relevant requirements of VCS Standard Version 4.1 (dated 22/04/2021).

Project: The project "Installation of high efficiency wood burning cookstoves in Malawi", is a grouped project which employs VCS methodology; VMR0006 (version 1.1) /B02/. The project involves distribution/construction of fuel efficient stoves in Malawi. 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 purpose and scope of validation

Purpose: The purpose of a validation is to have a thorough and independent assessment of the proposed project activity against the applicable VCS requirements, in particular, the project's baseline, monitoring plan and compliance with the 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 project activity.

Scope: 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 include the following: VCS Program Guide (v4.0, dated 19/09/2019), VCS Standard (v4.1, dated 22/04/2021), Program Definitions (v4.1, dated 22/04/2021), Registration & Issuance Process (v4.0, dated 19/09/2019) VCS Validation and Verification Manual (v3.2, dated 19/10/2016) applicable at the time in order to confirm that the project meets the applicability conditions of the selected baseline and monitoring VCS methodology VMR0006 (version 1.1), also assess the claims and assumptions made in the PD without limitation on the information provided by the project participants.

The method and criteria used for validation

The 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. Remote interviews with project stakeholders

- Interviews with relevant stakeholders in host country with personnel having knowledge with the project development via telephone, email or direct 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 05 findings were raised, which include:

01 Corrective Action Requests (CARs);

04 Clarification Requests (CLs);

00 Forward Action requests (FARs).

All the raised findings have been successfully closed by the Project Proponent.

Any uncertainties associated with the validation

There are no uncertainties associated with the validation of the project activity. The validation has been done with a reasonable level of assurance.

Summary of the validation conclusion

Carbon Check (India) Private Ltd. concludes the validation with a positive opinion that the VCS Grouped Project “Installation of high efficiency wood burning cookstoves in Malawi” as described in the PD (version 03, dated 11/10/2021) /01-b/, meets all applicable VCS requirements, including those specified in the VCS Standard (v4.1, dated 22/04/2021), relevant methodology, tools and guidelines.

The selected baseline and monitoring methodology (VMR0006 version 1.1) is applicable to the project and correctly applied. Carbon Check (India) Private Ltd. therefore requests the registration of the project as a VCS grouped project.

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1 INTRODUCTION

1.1 Objective

C-Quest Capital Stoves Asia Limited has appointed the VVB, Carbon Check (India) Private Ltd. to perform a validation of the VCS Grouped Project "Installation of high efficiency wood burning cookstoves in Malawi". This report summarizes the findings of validation of the project, performed on the basis of the VCS Program Guide (v4.0, dated 19/09/2019), VCS Standard (v4.1, dated 22/04/2021), Program Definitions (v4.1, dated 22/04/2021), Registration & Issuance Process (v4.0, dated 19/09/2019), VCS Validation and Verification Manual (v 3.2, dated 19/10/2016). Validation is required for all VCS project activities intending to register a grouped project under the VCS program. This report contains the findings and resolutions from the validation of the grouped project.

The purpose of a validation is to have a thorough and independent assessment of the proposed grouped 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 VCS Program, and against 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 participants. 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 grouped project:

- VCS Program Guide (v4.0, dated 19/09/2019)
- VCS Standard (v4.1, dated 22/04/2021)
- Program Definitions (v4.1, dated 22/04/2021)
- Registration & Issuance Process (v4.0, dated 19/09/2019)

- VCS Validation and Verification Manual (v 3.2, dated 19/10/2016)
- VCS Methodology: VMR0006.: Methodology for Installation of High Efficiency Firewood Cookstoves" (Version 1.1).
- Other relevant rules, including the host country legislation

1.3 Level of Assurance

☒ Reasonable level of assurance

☐ Limited level of assurance

1.4 Summary Description of the Project

The project "Installation of high efficiency wood burning cookstoves in Malawi", is a grouped project which employs of the VCS methodology; VMR0006 version 1.1 /B02/.The grouped project involves distribution of fuel efficient improved cook stoves (ICS) in Malawi. The project will disseminate 500,000 fuel efficient (ICS) TLC-CQC Rocket stove through 4 years and each year consist of 125,000 ICS. The TLC-CQC Rocket stove will reduces the amount of nonrenewable biomass used for cooking. PP has considered each ICS distributed as a project activity instance. The start date for the grouped project is 01/12/2020 /03/ which is the date of installation of the first stove in the grouped project.

The project proponent for the project activity is C-Quest Capital Stoves Asia Limited, owns the rights to VERs /05//12/.

The total estimated GHG emission reductions expected from the grouped project are 19,245,696 tCO_2e for the ten years fixed crediting period and average of 1,924,569 tCO_2e/year and the annual average GHG emission reduction each project activity instance (i.e., ICS) is 7.63 tCO_2e.

2 VALIDATION PROCESS

2.1 Method and Criteria

C-Quest Capital Stoves Asia Limited has appointed the VVB, Carbon Check (India) Private Ltd., to carry out the validation of the project "Installation of high efficiency wood burning cookstoves in Malawi", with regards to the relevant requirements of VCS Standard Version 4.1 (dated 22/04/2021)/B01-a/.

The validation includes a thorough and independent assessment of the proposed grouped project against the applicable VCS requirements, in particular, the project's baseline, additionality, 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 /B02/ and also assess the claims and assumptions made in the PD /01-b/ without limitation on the information provided by the project participants. The overall validation was conducted using Carbon Check's internal procedures.

2.2 Document Review

During the document review, CCIPL has applied standard auditing techniques including but not limited to document reviews and remote interviews, review of the applicable/applied methodology and its underlying formulae and calculations to assess the quality of information provided.

This report contains the findings and resolutions from the validation and a validation opinion on the proposed grouped project thus confirming the project design as document is sound and reasonable and meets the stated requirements and identified criteria.

The VCS project description, emission reduction calculation spread sheet and supporting documents related to the project design and baseline were reviewed as per VCS standard version 04.1 /B01/ requirements. The desk review included:

- A review of the data and information presented to verify completeness and consistency in accordance with VCS standard version 04.1 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.

The VCS PD version 01 dated 01/03/2021 /01-a/ was initially reviewed and CCIPL requested the PP to present the supporting information and documents. The documents reviewed by CCIPL are listed below in Appendix 1. Through the process of the validation, the revised VCS PD and the supporting documents were evaluated to confirm the actions taken by the PP to the CARs and CLs issued by the validation team.

The table in Appendix 1 outlines the documentation reviewed during the validation.

2.3 Interviews

The table below describes the remote interview process and further identifies personnel, including their roles, who were interviewed and/or provided information additional to that provided in the project description /01/ and any supporting documents.

	Date	Name	Organisation	Topic
/1/	15/06/2021	Tridip Goswami	C-Quest Capital (CQC)	• Project Design • Project Implementation status • Project start date and Project Location • Baseline Scenario • Baseline Identification and Additionality • Qualification and Training • Monitoring and reporting documentation • Quality Assurance – Management and operating system • Social and Environmental Impacts • Local Stakeholders meeting process • Compliance with relevant laws • Roles and responsibility
/2/	15/06/2021	Vineet Kumar Garg	C-Quest Capital (CQC)	• Project Design • Project Implementation status • Project start date and Project Location • Baseline Scenario • Baseline Identification and Additionality • Qualification and Training • Monitoring and reporting documentation • Quality Assurance – Management and operating system • Social and Environmental Impacts • Local Stakeholders meeting process • Compliance with relevant laws • Roles and responsibility
/3/	15/06/2021	Pooja Verma	C-Quest Capital (CQC)	• Project Design • Project Implementation status • Project start date and Project Location • Baseline Scenario • Baseline Identification and Additionality

				• Qualification and Training • Monitoring and reporting documentation • Quality Assurance – Management and operating system • Social and Environmental Impacts • Local Stakeholders meeting process • Compliance with relevant laws • Roles and responsibility

2.4 Site Inspections

Carbon Check has not conducted an on-site inspection due to the recent pandemic COVID19 and due to its related policy measures created restrictions all over the world impacting travel activities on an international level and even for in-country travel. A reasonable level of assurance has been maintained through the alternative means used for the purpose of validation as follows:

- An assessment of the implementation and operation of the proposed grouped project through remote interviews with the representatives of project proponent.
- Confirmation of the pre-project scenario
- Confirmation of the applicability of the methodology and monitoring and controlling instruments and operational arrangements.
- Assessment of the project boundaries
- Assessment of the monitoring provisions by checking the monitoring arrangement.

2.5 Resolution of Findings

This section summarises the findings from the validation of the project activity. In this section the findings from the document review, assessments and remote 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 total 01 CAR, and 04 CLs had been raised and successfully closed. Please refer to Appendix 4 below for the details of the CARs/CLs and their closure.

2.5.1 Forward Action Requests

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

i. the actual project monitoring and reporting practices requires attention and /or adjustment for the 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. As a consequence, such aspects should receive a special focus during the consecutive verification. A FAR may originate from lack of data sustaining claimed emission reductions.

3 VALIDATION FINDINGS

3.1 Project Details

The project "Installation of high efficiency wood burning cookstoves in Malawi", is a grouped project which employs baseline and monitoring methodology; VRM0006 version 1.1/B02/. The grouped project involves distribution of fuel efficient improved cook stoves (ICS) in Malawi. This grouped project comprises of 4 years and each year will distribute around 125,000 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. The TLC-CQC Rocket stove will burn the wood efficiently, which improves the thermal energy direct to the pot, so conserving non renewable biomass. Section 1.1. of the VCS PD contains a clear summary description of the projects. The completeness and accuracy of the project description was validated through remote interviews.

The project proponent is C-Quest Capital Stoves Asia Limited which will be holding the carbon credits generated form the project activity/05//12/.

The start date for the grouped project is 01/12/2020 /03/ which is the date of installation of first stove under this project activity.

The crediting period starts on 01/12/2020 /03/, which coincides with the starting date of the project activity, and last for 10 years, fixed. This is in accordance with paragraph 3.8.1 of the VCS standard version 4.1 /B01-a/ for non-AFOLU projects.

The indication of the project activity instance location and the geographic boundaries is provided in section 1.12. of the VCS PD. They are in accordance with paragraph 3.10.1 of the VCS Standard and

can confirm that the project activity boundary is uniquely defined. The grouped project location and geographic boundaries of the project are those of Malawi. This is in accordance with paragraph 3.5.8 of the VCS standard version 4.1 /B01-a/, which requires grouped projects to have one or more clearly defined geographic areas within which new project activity instances may be developed.

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 a grouped project, this is indicated in section 1.2. of the VCS PD.

The proposed grouped project is an energy efficiency project activity 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 Malawi under the Kyoto protocol, as indicated in the UNFCCC website /B04/.

The project proponent has declared that the project is not in registration under any other GHG program. The validation team has checked the UNFCCC database of registered projects or projects under validation and was able to confirm that the listed projects are not the proposed project activity

The proposed project activity instances do 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 reduces non renewable consumption and emissions savings but also has many other benefits for the household. It contributes to sustainable development in Malawi through:

- Reducing deforestation due to efficient fuel usage that occurs when using the ICS.
- Increase in disposable income due to reduced spending on fuels.
- It helps stimulate economic empowerment by creating jobs and entrepreneurs in construction of ICS.
- Time savings for the person cooking: this is a highly valued benefit for the household as cooks now add productive time to their working day. This facilitates schooling for girls, who are often made responsible for cooking activities.
- Gender balance: as the persons cooking in the household are mainly women, their earning potential, confidence and general position strengthens. In addition, reduced time spent by women collecting firewood has been shown to lower the incidence of rape.
- Improved health: cooking with ICS reduces indoor air pollution and helps reduce burn injuries and death, especially those caused by paraffin cookstoves.

Eligibility criteria of the grouped project activity

The eligibility criteria have been provided clearly in section 3.1 of the PD /01/ and then justification provided for inclusion of project activity instances for the VCS methodology.

Sl. No.	Eligibility criteria for the inclusion of new project activity instances	Applicability	Assessment by the validation team
1.	Meet the applicability conditions set out in the methodology applied to the project.	New project activity instances (TLC-CQC Rocket Stoves) will meet the applicability conditions set out in Section 3.2 where the target of the end-user is household and the ICS deployed is at least 25% of thermal efficiency.	The validation team reviewed the stove efficiency test performed by Aprovecho Research Centre on the TLC Rocket Stove/10/ and also the manufacturer specification/04/ which confirms that the ICS distributed to the end users has 34.5% thermal efficiency. This is deemed appropriate to the Validation team. Thus, the eligibility criteria has been met for the new project activity instances under this group project.
2.	Use the technologies or measures specified in the project description.	Only TLC-CQC Rocket stoves to be adopted in the project,	The Validation team through document review and remote interviews analyze that PP will be using only TLC-CQC Rocket stove and no other stove model under this grouped project. This has also been mentioned in the PD. Thus, the eligibility criteria has been met for the new project activity instances under this group project.
3.	Apply the technologies or measures in the same manner as specified in the project description.	Only TLC-CQC Rocket stoves to be adopted in the project and it will replace traditional cookstoves in household	The Validation team through document review and remote interviews analyze that PP will be using only TLC-CQC Rocket stove and no other stove model will replace the baseline traditional cookstoves in the household, under this grouped project. Which is also been mentioned in the PD. Thus, the eligibility criteria has been met for the new project activity instances under this group project.
4.	Are subject to the baseline scenario determined in the project description for the specified project activity and geographic area.	The new project activity instances will be installed within Malawi only and subject to the same baseline scenario determined in Section 3.4.	The Validation team through document review and remote interviews analyze that the baseline is demonstrated in the section 3.4 of the PD. PP will install only TLC-CQC Rocket stove within the project boundary of Malawi and will replace the baseline cookstoves. This has also been mentioned in the PD.

			Thus, the eligibility criteria has been met for the new project activity instances under this group project.
5.	Have characteristics with respect to additionality that are consistent with the initial instances for the specified project activity and geographic area.	All new project activity instances will use the activity method for demonstration of additionality. **Step 1: Regulatory Surplus** There is no mandated government programme or policy in host country of this project ensuring the distribution of new project activity instances. **Step 2: Positive List** The inclusion of new project activity instances will comply with positive list as it satisfies criterion 1 where it meets all the applicability conditions of the methodology.	The Validation team through document review and remote interviews analyze that PP has demonstrated additionality as per the methodology VMR0006 version 1.1 section 7 which states that activity method to demonstrate the additionality. This has also been mentioned in the PD. 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 activity meets all the applicability conditions of the applied methodology VMR0006, version 1.1 and distributes stoves at zero cost to the end-users and has no other source of revenue other than the sale of GHG credits. Hence the project qualifies under positive list and deemed additional. Thus, the eligibility criteria has been met for the new project activity instances under this group project.
6.	Where a capacity limit applies to a project activity included in the project, no project activity instance shall exceed such limit. Further, no single cluster of project activity instances shall exceed the capacity limit, determined as follows: 1) Each project activity instance that exceeds one percent of the capacity limit shall be	No project activity instance shall exceed the applicable limit, which is 180 GWh_{th}/y. The expected annual energy saving for each project activity instance is approximately 0.02 GWh_{th}/y or 0.01% of the limit. As the annual energy saving is below 1% of the limit, therefore no project activity instance is identified and divided into clusters.	PP has considered each ICS as a project activity instance which is deemed acceptable as per the VCS Program Definitions and VCS Standard /B01/. Since the annual energy saving per ICS is approximately 0.02GWth/y the capacity of project activity instance is well below the 1% of the threshold limit. Therefore, it is not required to divide any project activity instance into clusters. This criterion is deemed appropriate and it can be verified from the energy saving per ICS included in the grouped project.

	identified. 2) Such instances shall be divided into clusters, whereby each cluster is comprised of any system of instances such that each instance is within one kilometer of at least one other instance in the cluster. Instances that are not within one kilometer of any other instance shall not be assigned to clusters. 3) None of the clusters shall exceed the capacity limit and no further project activity instances shall be added to the project that would cause any of the clusters to exceed the capacity limit.		

3.2 Safeguards

3.2.1 No Net Harm

As identified by PP project has no negative impact. The potential negative environmental and socio-economic impacts identified by the project proponent and have been listed in section 2.1 of the PD.

Every additional project activity instance to be added to this Grouped Project will summarize any potential negative environmental and socio-economic impacts and the steps taken to mitigate them.

The validation team confirms that for 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

The stakeholder consultation meeting was held on multiple occasions in Malawi which are listed in the PD section Appendix 1.

The key comments made by the local stakeholders were all answered during the local stakeholder consultation meetings and have also been provided in the section of 2.2 the PD /01-b/. The stakeholder meeting conducted by the PP have been listed in the section 2.2 of the PD/01-b/ summary of the local stakeholder participation has been provided. The local stakeholder consultation meetings with the list of participants have been provided to the validation team/10/.

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. 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

As per the need for an EIA, Environmental Impact Assessments in Malawi are regulated through No environmental impacts have been identified by the project proponent

3.2.4 Public Comments

The public commenting period for the project was from 29/09/2020 to 29/10/2020 and below public comments received:

Comment	Response
Verra is requested to kindly check the addionality which is not correctly demonstrated in the PDD. Also, since these stoves are build by the owners itself , so why carbon credits are required by the PP	Additionality for the project activity has been demonstrated as per the applied VCS methodology VMR 0006. There is no mandate for distributing fuel efficient cookstove, and the ICS will be installed free of cost to the household.
Additonality demonstration is wrong. the stove does not falls under positive list of technology as per UNFCCC guidelines	Additionality for the project activity has been demonstrated as per the applied VCS methodology VMR 0006.
These type of stoves does not yield more then 20% efficiency and are similar to baseline systems. Mere addition of burner plate and fuel feeding plate does not contribute to efficiency. project developer must suffice stoves efficiency from reputed international testing agency like	Efficiency of the TLC rocket stove has been tested and approved by Aprovecho Research Centre. Aprovecho Research Centre specializes in testing biomass cooking stoves. They test stoves to understand how they function, to compare

clean cooking association etc to demonstrate that the actual efficiency is more then 34%	stoves, and to improve performance. The Water Boiling Test (WBT) and the nine metrics in the ISO/IWA Tiers provide the project manager with a holistic picture of emissions, fuel use, and safety. Aprovecho Research Center (ARC) assists developing world organizations to establish high quality labs so they can test and improve their wood burning cooking stoves. It specializes in iterative experimental design of wood burning cookstoves through rapid prototyping and emissions and thermal measurements.
cook stoves deployed in the project states an efficiency of 34% which is contradicting, since stoves types depicted in the document are made of mud stoves which are just traditional stoves	Please refer the response above
the project stoves does not count as energy efficient stoves and are basically typical mud stoves with less then 20% efficiency	Please refer the response above
The cookstoves are not improved efficient cookstoves but just the traditional cook stoves with slight modification having eff less then 23%	Please refer the response above

3.2.5 AFOLU-Specific Safeguards

Not Applicable.

3.3 Application of Methodology

3.3.1 Title and Reference

The Grouped Project provides for projects that use one of the VCS approved methodology:

- VMR0006. “Methodology for Installation of High Efficiency Firewood Cookstoves, (Version 1.1)”

The associated tools and guideline documents in the Grouped Project include:

- CDM Guideline “Sampling and surveys of CDM project activities and programmes of activities” version 04.0
- CDM Standard “Sampling and surveys for CDM project activities and programmes of activities” version 09.0
- CDM TOOL30 “Calculation of the fraction of non-renewable biomass” version 03.0

3.3.2 Applicability

The project applies VCS methodology; VMR0006, version 1.1/B02-a/. 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 project activity	Means of validation
1	Project activities shall be implemented in domestic premises or in community-based kitchen	The proposed project involves deployment of ICS only in households.	The Validation team through document review and remote interviews can confirm that the ICS TLC-CQC Rocket stove will only be distributed in the households 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;	TLC-CQC Rocket stoves planned to be installed under this project are single pot wood cookstoves that have an efficiency of 34.5% as per the manufacturer's specifications.	The validation team reviewed the stove efficiency test performed by Aprovecho Research Centre on the TLC Rocket Stove/10/and also the manufacturer specification/04/ which confirms that the ICS distributed to the end users has 34.5% thermal efficiency. This is deemed appropriate to the Validation team. Thus, the eligibility criteria has been met for the new project activity instances under this group project.
3.	Both 'Projects' and 'Large Projects' can use the methodology	Estimated average annual emission reductions for the grouped project activity are greater than 300,000 tonnes CO_2e per year. Therefore, proposed project qualifies the "Large Projects" criteria.	The Validation team through document review and remote interviews can confirm that the ICS TLC-CQC Rocket stove will only be distributed in the households and each ICS distributed under this grouped project will be considered as

No.	Relevant applicability condition	Compliance with project activity	Means of validation
			project activity instance. The average annual GHG emission reductions is more than 300,000 tCO_2e for the group project activity and hence the project is Large Project as per VCS.
4	Non-renewable biomass has been used in the project region since 31 December 1989, using survey methods or referring to published literature, official reports or statistics;	Non-renewable biomass has been used since 31 December 1989 in Malawi as demonstrated at below.	The validation team reviewed the FOA Global Forest Resources Assessment 2010 Country Reports, which demonstrates the use of Non-renewable biomass since 1989 in Malawi. This has deemed appropriate to the Validation team. Thus, the eligibility criteria has been met for the new project activity instances under this group project.
5	For the specific case of biomass residues processed as a fuel (e.g., briquettes, wood chips), it shall be demonstrated that: (a) It is produced using exclusively renewable biomass (more than one type of biomass may be used). (b) The consumption of the fuel should be monitored during the crediting period and (c) Energy use for renewable biomass processing (e.g., shredding and compacting in the case of briquetting) may be considered as equivalent to the upstream	Not applicable. The ICS is introduced as energy efficiency measure to replace baseline stoves and reduce the use of non-renewable biomass for combustion.	Not applicable

No.	Relevant applicability condition	Compliance with project activity	Means of validation
	emissions associated with the processing of the displaced fossil fuel and hence disregarded.		
6	The project design 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 end-user locations (e.g., programme logo)	Each ICS in this project will be identified by a unique combination of customer name and geographical location, as well as a serial number. The serial number will be a unique number which will allow for a clear distinction between the stoves. No individual serial number can be repeated within the project, thus ensuring that each stove is counted only once in the proposed project. In addition, the project has been cross-checked against other CDM project activity operating in the country using the UNFCCC, the Gold Standard, and other relevant voluntary carbon schemes to ensure that the ICS is not included in any other CDM project activity or voluntary project activity.	The validation team by means of remote audit interviews confirms that the proposed method for distribution of project devices includes the method to avoid double counting of emission reductions such as unique identifications of product, end-user details (name, address etc) and unique GPS referenced location (if available). Therefore, the validation team confirms that the record keeping system will eliminate double counting.
7	The project design 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	The stove manufacturers/wholesale providers/end users shall sign an undertaking stating clearly that the PP or an entity authorized by it shall be the sole owner of the VCUs arising from the project	The validation team by means of remote audit interviews and the review of sample beneficiary (end-user) undertaking /05/,/ 12/confirms that the proposed procedures prevent double counting of emission reductions.

3.3.3 Project Boundary

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

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

The project boundary for the grouped Project consists of the physical, geographical locations of the distributed ICS limited to within the Malawi. This includes "The Non renewable biomass used by the project cooking system".

3.3.4 Baseline Scenario

The project activity will use methodology VMR0006 version 1.1. This is the most recent valid version available on the UNFCCC website and the VERRA site at the time of validation. Since the project activity that apply the indicative simplified methodology VMR0006 version 1.1, the baseline scenario for this project activity is the one indicated by this methodology, i.e. "*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/ 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 remote 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/B02/ and is justified.

3.3.5 Additionality

The additionality of the grouped project has been demonstrated by the PP as per the methodology section 7 /B02/. The methodology uses activity method for the demonstration of additionality. As per the methodology, the grouped 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 activity meets all the applicability conditions of the applied methodology VMR0006, version 1.1 and distributes stoves at zero cost to the end-users and has no other source of revenue other than the sale of GHG credits. Hence the project qualifies under positive list and deemed additional.

The additionality has also been included in the eligibility criteria in the PD. Each project activity instance shall meet the requirements of eligibility criteria in order to be included in the grouped project. As per the program definitions of VCS/B01-e/ Grouped Project is defined as, "A project to which additional instances of the project activity, which meet pre-established eligibility criteria, may be added subsequent to project validation" and Project Activity Instance (Instance) is defined as, "A particular set of implemented technologies and/or measures that constitute the minimum unit of activity necessary to comply with the criteria and procedures applicable to the project activity under the methodology applied to the project". Therefore, each ICS is considered as a project activity instance.

Therefore, the validation team confirms that the grouped project is additional and all the project activity instances that will be included in the grouped project will meet the eligibility criteria. Installation of high efficiency wood burning cookstoves in Malawi is additional – the emission reductions achieved by the project would be below those that would have occurred without the implementation of the project.

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/. The emission reductions of the project instances of the grouped project would be calculated using the formulae mentioned in the applied methodology; VMR0006 (version 1.1)/B02-a/.

Validation team based on the review of the PD /01/, confirms that the formulae are correctly presented for the determination of emissions reductions at project instance 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/ and ER spreadsheet/02/ and methodology VMR0006 (version 1.1)/ B02-a/.

According to applied methodology VMR0006 (version 1.1) /B02-a/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.

$$ER_y = \sum_i \sum_j ER_{y,i,j} \qquad \text{Equation (1)}$$

Where:

i	=	Indices for the situation where more than one type/model of improved cookstove is introduced to replace three-stone fire
j	=	Indices for the situation where there is more than one batch of improved cookstove of type *i*
ER_y	=	Emission reductions during year *y* in t CO_2e

$ER_{y,i,j}$	=	Emission reductions by improved cookstove of type *i* and batch *j* during year *y* in t CO_2e

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

Equation (2)

Where:

$B_{y,savings,i,j}$	=	Quantity of woody biomass that is saved in tonnes per improved cookstove of type *i* and batch *j* during year *y*
$f_{NRB,y}$	=	Fraction of woody biomass that can be established as non-renewable biomass (fNRB)
$NCV_{wood\ fuel}$	=	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 cookstoves of type *i* and batch *j* operating during year *y*
0.95	=	Discount factor to account for leakage

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

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

Equation (3)

where

η_{old}	=	Efficiency of baseline cookstove
$\eta_{new,y,i,j}$	=	Efficiency of the improved cookstove type *i* and batch *j* determined through water boiling test (WBT) during year *y* Alternatively, efficiency may be determined using Equation 4.
$B_{y=1,new,i,j,survey}$	=	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.

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

Equation (4)

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 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 grouped project would achieve a total emission reduction of 19,245,696 tCO_2e in the 10-year crediting period and an average of 1,924,569 tCO_2e per year as indicated in the final VCS PD /01-b/ and also in the ER spread sheet /02/.

In conclusion, all values used in the VCS PD to calculate emission reductions are considered reasonable in the context of the proposed grouped project "Installation of high efficiency wood burning cookstoves in Malawi" and calculation approach is correct.

3.3.7 Methodology Deviations

No methodology deviations have been applied to the project activity.

3.3.8 Monitoring Plan

The grouped project employs baseline and monitoring methodology namely VMR0006, version 1.1 /B02/. According to section 5.1 and 5.2 of PD/01-b/ the parameters determined ex-ante and those to be monitoring ex post as per the requirements of the methodology are given below.

Parameters Determined ex-ante

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

Parameter	Unit	Value	Assessment
$f_{NRB,y}$	Fraction	0.91	-Fixed ex-ante -The value is calculated by third party E4Ecosolutions in line with the applicable methodological CDM Tool 30, version 3.0.
$NCV_{wood\ fuel}$	TJ/tonne	0.0156	- Fixed ex-ante - Default values from the 2006 IPCC Guidelines have been used.
$EF_{wf,CO2}$	tCO_2/TJ	112	- Fixed ex-ante - Default values from the 2006 IPCC

			Guidelines have been used.
$EF_{wf,non\ CO2}$	tCO_2/TJ	26.3	- Fixed ex-ante - Default values from the 2006 IPCC Guidelines have been used.
η_{old}	Fraction	0.1	- Fixed ex-ante - Default values from the methodology.
η_p	Fraction	0.345	- Fixed ex-ante -Manufacturers specification.

Asssessment of $f_{NRBi,y}$

PP has contracted an Independent party "C4Ecosolutions" for a study and calculation of f_{NRB} as per CDM Methodological Tool: "Calculation of fraction of non- renewable biomass" (v03.0). Validation team confirms that it has checked f_{NRB} calculation report/spread sheet /11/ prepared by C4Ecosolutions.

As per the applied methodological tool, In the case of ex ante calculation of $f_{NRB,}$ the parameter f_{NRB} shall be estimated using the most recent historical year for which data is available. Review of f_{NRB} report /11/ prepared by C4Ecolution revealed that all the data used for the calculation is latest available data at the time of validation.

Review of f_{NRB} calculation report/spread sheet /11/ prepared by C4Ecosolutions reveals that the estimation of non-domestic fuel consumption was derived from the UN Statistics Division wood consumption and population statistics, in combination with the national average per capita woody biomass consumption (Table 1). The non-domestic fuelwood consumption estimates provided by the UN Statistics Division have been conservatively applied (Table 1), disregarding the additional deforestation likely occurring as a result of shifting agriculture and from informal or illegal harvesting. Other categories of non-domestic consumption reported by UN Statistics Division have been conservatively excluded due to apparent double accounting with domestic consumption. The total woody biomass consumption for Malawi is as per the f_{NRB} report /11/ prepared by C4Ecolution is estimated to be 6,003,725 t/yr, which is deemed appropriate to the VVB.

In Malawi four ecological zone has been found i.e. tropical desert, tropical moist forest, tropical mountain system and water and the same was verified by referring the FAO data through web-research. VVB has noted that in the report /11/ geospatial data products for Malawi were analysed in R18–22 to estimate Malawi renewable biomass. The woody cover from all areas defined as "forest" (>10%) cover "other wooded land" (5-10% cover) as well as "other land" (<5% cover), according to the FAO definitions for 2000 and 2018 was estimated using Hansen/UMD/Google/USGS/NASA spatial data, which is derived from Hansen et al.

As no woody cover was excluded from the analysis based on a threshold of minimum cover, disaggregation into the FAO forest categories would have been superfluous. The woody cover was disaggregated according to the FAO global ecological zones and the total woody cover extent was calculated for each ecological zone, within the protected areas and within areas that are either accessible or geographically remote. The woody cover is estimated as a percentage for the whole country within 30 x 30 m resolution grid cells. The woody cover extent for each cell is therefore calculated as the woody cover percentage multiplied its area (0.9 ha).

The default age-weighted mean annual increment (MAI) estimates of each ecological zone, as reported by the IPCC, was used for the study, checked and confirmed by the VVB. The proportion of forest stand ages above and below 20 years old were estimated for each ecological zone by extrapolating the observed forest gain extents between 2000 and 2012 to a 20-year period. Where primary forest growth rates are available, they were applied based on the primary forest extent data published by Turubanova et al. The resulting average MAI estimates for Malawi are 1.64, 0.91,1.89, and 0.91 t/ha/year for the tropical dry forest, tropical moist forest, tropical mountain system, and area categorised as “water” respectively.

Table below provides the validated total, protected and remote forest cover extent, mean annual increment and renewable biomass by ecological zone for the Malawi.

Ecological Zone	Total forest cover (ha)	Non-accessible forest cover (ha)	MAI (t/ha/yr)	Renewable biomass (t/yr)
Tropical dry forest,	263,566	187,249	1.64	125,309
Tropical moist forest	1,127,369	832,900	0.91	269,134
Tropical mountain system	279,505	203,574	1.88	142,838
“Water”	33,953	25,911	0.91	7,350

The difference between woody biomass consumption and renewable biomass is considered to be non-renewable. Non-renewable biomass utilisation in Malawi is, therefore, validated as 5,459,093 t/yr. The fraction of non-renewable biomass is the quotient of the non-renewable and the total biomass. The fraction of non-renewable biomass for Malawi is, therefore, validated as 0.91.

From the review of this report/spread sheet /11/ and interviews with the CME and C4 EcoSolutions (Pty) Ltd, validation team's confirms the following:

- The report has been prepared by an independent party (i.e., C4 EcoSolutions (Pty) Ltd.), who is experienced in conducting such study.
- The detailed methodology (including the calculation) of conducting the study has been provided in the report /spread sheet /11/.

- The study has been done in accordance with the CDM Methodological Tool: "Calculation of fraction of non- renewable biomass" (v03.0) including the equitation used and the data source as required by the tool.
- All the reference and data source used for the calculation/study has been listed and assessed by the VVB.

In the opinion of validation team, the calculation of f_{NRB} is correct and in line with the CDM Methodological tool: Calculation of the fraction of non-renewable biomass (v03.0) and thus acceptable to the validation team.

Parameters monitored ex-post

Sl.No.	Parameters/01/	Methodology(B02)	Description/01/
1	$N_{y,i,j}$	VMR0006	Number of project devices of type I and batch j operating during year y.
2	$\eta_{new,y,i,j}$	VMR0006	Efficiency of the improved cookstove type *i* and batch *j* determined through water boiling test (WBT) during year *y.*
3	$B_{y=1,new,i,j,survey}$	VMR0006	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.
4	Life Span	VMR0006	The operating lifetime of the project device. The life span should be reported if the methodology equation 5 is adopted to determine the project stove efficiency

In accordance with section 3.21.1 of the VCS Standard (version 4.1) /B01-a/ all documents and records will be kept in a secure and retrievable manner for at least two years after the end of the project crediting period. The data collecting and management methods as provided in section 5.3 of the VCS PD/01/ are acceptable to the validation team. The validation team interviewed representatives of PP and it was established that the database of all the project equipment distributed by PP is created and maintained. The entire database will be kept with protected by PP for a period of more than two years. In addition, a two samples of equipment invoices was studied and was found to contain information in compliance with the monitoring requirements of the methodology VMR0006 (version 1.1)/B02-a/.

The validation team considers that the means of implementation of the monitoring plan, including the data management, monitoring equipment and quality assurance and quality control procedures, are sufficient to ensure that the emission reductions achieved by/resulting from the proposed grouped project therein can be reported ex post and verified. In addition, the

sampling plan meets the requirements of the monitoring methodology VMR0006 (version 1.1) /B02-a/ and the Standard of Sampling and Surveys of CDM project activities and Programme of Activities (version 09.0) /B04-a/ and Guidelines for sampling and surveys for CDM project activities and Programme of Activities (version 04) /B04-b /.

Validation team confirms that the overall monitoring plan complies with the requirements of the methodology VMR0006 (version 1.1)/B02-a/, the monitoring arrangements describes in the monitoring plan are feasible within the project design and the project proponents will be able to implement the described monitoring plan.

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 CONCLUSION

The Project Participant, C-Quest Capital Stoves Asia Limited, has commissioned the VVB, Carbon Check (India) Private Ltd. to perform an independent validation of the VCS Project Activity "Installation of high efficiency wood burning cookstoves in Malawi". This report summarises the findings of the validation of the project, performed on the basis of VCS criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

The validation process was performed on the basis of all guidance and criteria as provided in VCS Standard version 4.1/B01-a/, VCS Program Guide version 4.0/B01-b/, VCS Validation and Verification Manual version 3.2/B01-c/ and Registration & Issuance Process version 4.0/B01-d/.

The project activity provides the information in PD/01-b/ as required by the VCS Standard /B01-a/ and Validation and Verification Manual /B01-c/ and in Carbon Check's opinion meets the requirements of the applied baseline and monitoring methodology, VMR0006 version 1.1 and /B02/and is likely to achieve the estimated emission reductions. The validation has been performed using a risk- based approach, as described above. The expected annual average emission reductions from the project activity are 1,924,569 tCO_2e/year and the total for the crediting period is 19,245, 696 tCO_2e.

Carbon Check (India) Private Ltd concludes the validation with a positive opinion that the VCS Project Activity "Installation of high efficiency wood burning cookstoves in Malawi", as described in the PD (version 03, dated 11/10/2021) /01-b/, meets all the applicable VCS requirements, including those specified in the Project Standard, relevant methodology, tools and guidelines.

The selected baseline and monitoring methodology VMR0006, Version 1.1 is applicable to the project and correctly applied. Carbon Check (India) Private Ltd therefore requests the registration of the project as a VCS project activity.

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.

APPENDIX 1.1: REFERENCE DOCUMENTS

Ref	Document
/01/	Project description titled: a) Installation of high efficiency wood burning cookstoves in Malawi (version 01; dated:01/03/2021) b) Installation of high efficiency wood burning cookstoves in Malawi (version 03; dated:11/10/2021)
/02/	• ER estimated spread sheet correspond to /01-a/ • ER estimated spread sheet correspond to /01-b/
/03/	Evidence for the start date of the grouped project
/04/	Technical specifications of the TLC-CQC Rocket Stove including the life span.
/05/	Proof of right of VERs.
/06/	Company registration certificate for the PP
/07/	Local stakeholders meeting related evidence
/08/	Project implementation timelines
/09/	Evidence for unique identification of each of the TLC-CQC Rocket Stove
/10/	Evidence for stove efficiency tests performed by Aprovecho Research Centre on the TLC Rocket Stove.
/11/	Evidence for fNRB calculation done by C4 EcoSolutions (Pty) Ltd.
/12/	Proof of right of relinquishment of VERs from the end users of the stove
/13/	Sample sales records/warranty cards for the stove
/14/	Monitoring survey questionnaire template
/15/	Declaration from the project proponent that the project is not creating any other form of environmental credit under any specific program.
/16/	Declaration from the project proponent that the project has not or shall not claim carbon credits any other scheme after Registration of the project under VCS.

APPENDIX 1.2: BACKGROUND DOCUMENTS

Ref	Document
/B01/	VCS Requirements a. VCS Standard (v4.1, dated 22/04/2021) b. VCS Program Guide (v4.0, dated 19/09/2019) c. VCS Validation and Verification Manual version (v3.2, dated 19/10/2016)

	d. Registration & Issuance Process (v4.0, dated 19/09/2019) e. VCS Program Definitions version (v4.1, dated 22/04/2021) f. VCS PD template version 4.0
/B02/	Applied baseline and monitoring methodology 1) VMR0006. version 1.1, "Methodology for Installation of High Efficiency Firewood Cookstoves"
/B03/	a. "Standard for sampling and surveys for CDM project activities and programme of activities" (version 09.0) b. Guidelines for sampling and surveys for CDM project activities and Programme of Activities (version 04)
/B04/	Website and links: 1. IPCC (http://www.ipcc-nggip.iges.or.jp) 2. http://cdm.unfccc.int 3. http://www.v-c-s.org

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
DPR	Detailed project report
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
MW	Mega Watt
MWh	Mega Watt Hour
NA	Not Applicable
OSV	On Site Visit
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
VVM	Validation and Verificatoin Manual
VVS	Validation and Verification Standard

APPENDIX 3: CERTIFICATES OF COMPETENCE

Carbon CHECK

Carbon Check (India) Private Ltd.

Vikash Kumar Singh

has been qualified as per CCIPL's internal qualification procedures, in accordance with requirements of Accreditation Standard (version 07.0):

For following functions:

Validator	☒	**Team Leader**	☒	**Technical reviewer**	☒
Verifier	☒	**Technical Expert**	☒	**Local Assessor**[1]	☒

In the following Technical Areas:

TA 1.1	☒	**TA 3.1**	☒	**TA 5.2**	☐	**TA 9.2**	☐	**TA 13.2**	☒
TA 1.2	☒	**TA 4.1**	☒	**TA 8.1**	☐	**TA 10.1**	☐	**TA 14.1**	☐
TA 2.1	☐	**TA 5.1**	☐	**TA 9.1**	☐	**TA 13.1**	☒		

Mr. Amit Anand
CEO

Date of Approval	**Valid Till**
24/12/2020	24/12/2021

Revision History of the Document

26/12/2014	Initial Adoption
24/12/2015	Annual Revision
20/01/2016	Interim Revision for office address change
23/12/2017	Annual Revision
24/12/2017	Annual Revision
24/12/2018	Annual Revision
24/12/2019	Annual Revision
01/03/2020	Interim Revision for office address change
01/09/2020	Interim Revision for CCIPL logo change
24/12/2020	Annual Revision

[1] India, South Africa

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Carbon CHECK

Carbon Check (India) Private Ltd.

Sanjay Agarwalla

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For following functions:

Validator	☒	**Team Leader**	☒	**Technical reviewer**	☒
Verifier	☒	**Technical Expert**	☒	**Local Assessor**[1]	☒

In the following Technical Areas:

TA 1.1	☒	**TA 3.1**	☒	**TA 5.2**	☒	**TA 9.2**	☒	**TA 13.2**	☐
TA 1.2	☒	**TA 4.1**	☒	**TA 8.1**	☐	**TA 10.1**	☐	**TA 14.1**	☐
TA 2.1	☒	**TA 5.1**	☒	**TA 9.1**	☒	**TA 13.1**	☒		

Mr. Vikash Kumar Singh
Compliance Officer

Mr. Amit Anand
CEO

Date of Approval
24/12/2020

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24/12/2019	Annual Revision
01/03/2020	Interim Revision for office address change
01/09/2020	Interim Revision for CCIPL logo change
24/12/2020	Annual Revision

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APPENDIX 4: FINDINGS LOG

Finding	CAR 01		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding *(DOE)*	In accordance with the requirement of § 3.7 of VCS standard, version 04.1, The project start date of a non-AFOLU project is the date on which the project began generating GHG emission reductions or removals. Projects shall complete validation within specific timeframes from the project start date. In section 1.8 of the PD start date and document provided for the start date are inconsistent. PP need to clarify the same Moreover in accordance with the requirement of § 3.8.1 of VCS standard, version 04.1, the project crediting period shall be either seven years, twice renewable for a total of 21 years, or ten years fixed. In section 1.9 of the PD crediting period is taken from 01/01/2021 which is the start date of the project activity and incorrect as per the document provided. Crediting period would change accordingly considering ten years fixed crediting period.		
Corrective Action or clarification #1 *(PP shall write a detailed and clear corrective action or further information for clarification as per finding)*	Start date of project activity has now corrected in the revise PD and made in consistence with the requirement of § 3.7 of VCS standard, version 04.1. Crediting period of the project activity has also been corrected accordingly in the revised PD.		
DOE Assessment #1 *The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	PP has provided the revised PD, which is now inline with the VCS standard version 4.1. This has been checked and verified by the validation team. Hence the CAR is closed.		
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed		

Table 1. CLs from this validation

Finding	CL 01		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding *(DOE)*	In regards to the calculation of f_{NRB}, PP has provided the third party assessment document which does not used the latest version of Tool 30. Clarification is requested for the same.		

Finding	CL 01
Corrective Action or clarification #1 *(PP shall write a detailed and clear corrective action or further information for clarification as per finding)*	fNRB,y calculation have now corrected in accordance to TOOL 30 version 03.0 in the revised PD
DOE Assessment #1 *The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	PP has revised the calculation as per the latest TOOL 30 version 03.0 and provided the revised PD. This has been checked and verified by the validation team. Hence the CL is closed.
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed

Finding	CL 02		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding *(DOE)*	In section 3.2 of the PD "Applicability of Methodology" PP has not included all the criterion as per the applicable VCS methodology VMR0006 ver 1.1.		
Corrective Action or clarification #1 *(PP shall write a detailed and clear corrective action or further information for clarification as per finding)*	All the criterion mentioned in the applied methodology VMR 0006 ver1.1 have now been incorporated in the revised PD.		
DOE Assessment #1 *The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	PP has provided the revised PD, this has been checked and verified by the validation team. Hence CL is closed		
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed		

Finding	CL 03		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding *(DOE)*	PP is requested to fixed all the broken web links provided in the PD, ER spread sheet and f_{NRBy} calculation sheet.		
Corrective Action or clarification #1 *(PP shall write a detailed and clear corrective action or further information for clarification as per finding)*	All the weblinks have now been corrected.		
DOE Assessment #1 *The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	PP has provided the revised PD; which has been checked and verified by the validation team. Hence CL is closed.		

Finding	CL 03
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed

Finding	CL 04		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding *(DOE)*	PP needs to apply the latest version of the "Standard : Sampling and Surveys for CDM Project Activities and Programme of Activities" in the section 5.3 monitoring plan of the PD. Moreover for the parameter $N_{y,i,j}$ the monitoring frequency written is "biennially" where as methodology says "annual".		
Corrective Action or clarification #1 *(PP shall write a detailed and clear corrective action or further information for clarification as per finding)*	Latest version of the "Standard for "Sampling and Surveys for CDM Project Activities and Programme of Activities" i.e., version 9 has now been applied in the section 5.3 monitoring plan of the revised PD. Monitoring frequency mentioned for the parameter $N_{y,i,j}$ is mentioned correctly in the revised PD.		
DOE Assessment #1 *The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	PP has provided the revised PD, using the latest version of the "Standard: Sampling and Surveys for CDM Project Activities and Programme of Activities" (version 09). Also the monitoring frequency of the parameter "$N_{y,i,j}$" has been stated as "At least once every two years" which is line with he applied methodology VMR0006, version 1.1 and hence deemed acceptable. Hence CL is closed		
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed		