



**Verified Carbon
Standard**

HOLISTIC DEVELOPMENT OF NORTH EAST INDIA THROUGH CLEAN ENERGY ACCESS



Document Prepared by KBS Certification Services Ltd

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Summary:

A brief description of the validation and the project

Validation: 'SDG13 Ventures Pte Ltd' has appointed KBS Certification Services Ltd. to do validation of the VCS project activity “Holistic development of North East India through clean energy access”, with regard to the relevant requirements of VCS Standard version 4.4.

Project: The proposed project activity “Holistic development of North East India through clean energy access” is a grouped project which employs VCS methodology; VMR0006 version 1.1 /02/. The project involves distribution of fuel-efficient stoves in North Eastern States of India. 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

¹ Earlier Team Leaders - Mr. Tushar Eknath Chaudhari (Until 06-March-2023), Shilpa Swarnim (Until 24-May-2023)

² Earlier Technical reviewer – Sudheendra K (Until 10-March-2024)

stakeholders of the quality of the project and its intended generation of emission reductions. KBS's objective is to perform a thorough, independent assessment of the validation of the project activity.

S³cope: 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 (v4.3), VCS Standard (v4.4), Program Definitions (v4.3), Registration & Issuance Process (v4.3) VCS Validation and Verification Manual (v3.2) 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 10 findings were raised, which include:

02 Corrective Action Requests (CARs);

07 Clarification Requests (CLs);

01 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

KBS Certification concludes the validation with a positive opinion that the VCS Grouped Project “Holistic development of North East India through clean energy access” as described in the PD (version 05, dated 12 June 2023) /1a/, meets all applicable VCS requirements, including those specified in the VCS Standard (v4.4), relevant methodology, tools and guidelines.

The selected baseline and monitoring methodology (VMR0006 version 1.1) are applicable to the project and correctly applied. KBS Certification therefore requests the registration of the project as a VCS grouped project.

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1 INTRODUCTION

1.1 Objective

SDG13 Ventures Pte Ltd has commissioned KBS Certification Services Ltd. to do VCS validation of the project activity: “Holistic development of North East India through clean energy access”, with regard to the relevant VCS requirements of VCS Standard version 4.4; to attain real, measurable, additional and permanent emission reductions.

The purpose of validation is to ensure a thorough, independent assessment of the project description (PD), in particular the project's description eligibility, ownership, crediting period and details regarding its compliance with the law statutes and other regulatory frameworks

- The requirements of VCS Program Guide Version 4.3 /8/
- The requirements of VCS Standard Version 4.4 /9/
- To assess the project's compliance with other relevant rules, including the project country (India) legislation and
- Other relevant rules are validated in order to confirm that the project description as documented is sound and reasonable and meet the stated requirements and identified criteria.

The validation is seen as necessary to provide assurance about the quality of the project and its intended generation of emission reductions over the project's crediting period without any double counting.

1.2 Scope and Criteria

The scope of the validation is defined as an independent and objective review of the Project description document, where methodological deviations and the project's compliance in section 1 (i.e., Project Details) is reviewed against the requirements of VCS Standard. KBS has employed a risk-based approach in the validation, focusing on the identification of significant risks for project implementation and the generation of Emission Reductions.

The items covered in the validation are described below:

- VCS Criteria, VCS standard version 4.4
- VCS Project Description
- Background investigation and follow up interviews
- Draft validation reporting with CARs, CLs & FARs, if any
- fNRB
- Final validation reporting

The validation is based on the information made available to KBS and on the contract conditions.

The validation is not meant to provide any consulting to the project proponent. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the project description.

The work carried out by KBS is free from any conflict of interest.

1.3 Reasonableness of Assumptions

☒ Reasonable level of assurance

The validation report is based on VCS-PD, supporting documents made available to the validator and information collected through performing interviews. Based on the process and procedures conducted, KBS states whether the information in the PD:

- is materially correct and is a fair representation of the actual project details, and
- is prepared in accordance with VCS requirements and the applied methodology for information pertaining to description, methodological deviations and reporting.

Through the remote interview, host country rule and regulations related to project activity, Project description, technological measures, Implementation, Operation, Management of project activity and Training of personnel, Stakeholder consultation etc. has been checked and found appropriate.

The validation work is carried out as per this requirement and the validation opinion is assured provided the credibility of all above. Details are presented in the Validation statement in section 4 below.

1.4 Summary Description of the Project

The proposed project activity aims to increase access of households and communities to improved cookstoves by disseminating high thermal efficiency and low greenhouse gas emitting cooking stoves known as Improved Cook Stoves (ICS) to the rural households of North Eastern States of India. The implementation of the project activity will result in replacement of low efficiency and high greenhouse gas emitting stoves in the households, thereby resulting in reduction of firewood consumption & consequent emissions from combustion. Overall objectives through the implementation of the project are reduction of greenhouse gases, conservation of forests leading to climate change mitigation in a sustainable manner, as well as improved health conditions of ICS users due to improved indoor air quality along with drudgery reduction in everyday cooking.

As confirmed through the remote interview and through the documents, the technology deployed under the project activity shall be thermally efficient (in compliance with the methodological requirements) and having an average lifespan of 7 years. The currently eligible types of cookstoves to be distributed include the Greenway Jumbo stoves. Greenway Jumbo stove has been tested for thermal efficiency of 38% as per water boiling test/13/ according to ISO 19867 test Sequence protocol and certified by third party (KIRDI Stove Testing Centre). The efficiency of ICS has been estimated to be more than 3 times the efficiency of old cookstoves. The efficiency test report provided to assessment team was reviewed and it was concluded that the efficiency test/13/ was conducted in accordance with the procedure stipulated in the applied methodology/2/ VMR0006, version 1.1.

The start date of the project is considered as 01-June-2023 which is the expected date of distribution of first batch of ICS in the project activity. Based on the interview with the PP and the manufacturer of ICS, the validation team confirms that the date is reasonably assumed. Accordingly, the duration of fixed crediting period of 10 years starts from 01-June-2023 and ends on 31-May-2033.

The PP will enter into contractual agreement with the beneficiaries (individual households using ICS) by virtue of which, the end user will confirm use of cook stove as well as transfer the VCU right to the Project Participant.

The project proponent aims to disseminate 250,000 improved cook stoves in phased manner. It has planned to distribute 50,000 ICS/year up to 5 years. The estimated amount of emission reductions per annum are 790,204 tCO₂e (Rounded down) and a total of is 7,902,040 tCO₂e for the ten years fixed crediting period.

Findings: CAR 02 has been raised and successfully closed. (Refer Appendix 3 for further details)

2 VALIDATION PROCESS

2.1 Method and Criteria

The Validation process was carried out in line with the requirements of VCS standard version 4.4. The project activity applies approved VMR0006 version 1.1/02/, categorized under sectoral scope 3 “Energy Demand”. The validation consisted of the following phases:

- Completeness check and desk review of the Project Description
- Interview with project representatives and issuance of findings.
- Resolution of findings followed by preparation of the final validation report and opinion.

Timeline of Validation:

Work order signed	05-May-2022
Onsite validation/Remote audit	09-November-2022
(Draft) Reporting	14-December-2022
(Final) Reporting	11 – April - 2024

2.2 Document Review

After the submission of the draft PD /1.1/ and supporting background documents related to the project design and baseline from the client, the completeness of information made available is reviewed as per VCS standard version 4.4 /9/ requirements. 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 available on public domain. The project has been listed in the VERRA (<https://registry.terra.org/app/projectDetail/VCS/3162>). A desk review is carried out to assess the following:

- the project details as per VCS PD template
- any methodological deviations applied
- compliance with relevant law and regulations
- conditions prior to project initiation/ baseline

The list of documents reviewed is included in the section ‘References’.

2.3 Interviews

“The VCS Program does not explicitly mandate site visits as part of the validation and verification process, only that VVBs must achieve a reasonable level of assurance on all validations and verifications (per Section 4.1.2 of the VCS Standard, v4.4). Therefore, where a VVB can achieve a reasonable level of assurance without conducting a site visit, or through a remote site visit, this is in conformance with the VCS rules, and no request for an exemption or pre-approval from Verra is required. However, where a validation/verification has been conducted without a site visit, or through a remote site visit, please ensure that the applicable section of the validation/verification report includes a discussion of how a reasonable level of assurance was achieved without an in-person site visit”.

Following facts about the project also considered into account for not undertaking the site visit:

- The baseline fuel consumption computation was chosen by PP as per the ex-post monitoring surveys in project stoves as one of the options provided in the VMR0006, version 1.1, therefore the requirement of site visit was not assessed as necessary.
- There was no distribution of project stoves and PP informed that the distribution would only start after the validation.

Hence, the VVB has used other standard auditing techniques for validation as referred to in VCS Rules/requirements, VCS Validation and Verification Manual version 3.2.

Validation team has used the following alternative means for its assessment and to justify that they are sufficient for the purpose of validation. Along with desk review, audit team has conducted remote audit interview as follows:

- A complete desk review of the VCS PD /1.2/, as well as all applicable country legal requirement and supportive evidences have been checked by the validation team.
- Interviewed the representative stakeholders and potential ICS users.
- Validation team has performed google meet interview with PP in order to check implementation, ownership, technology, thermal testing procedure, sampling and monitoring procedures etc.
- Cross-check evaluation, for information received from interviews, under the scope of all information and references provided in VCS PD and supporting documents.

Details of interviewees, topics covered and additional information are presented below:

Date:	09-November-2022 (Google meet interviews)		
Key points discussed:	Name of person, interviewed	Designation, Organization	Team member
Host Country rule and regulations related to project activity, Project description, Ownership, Project start date, technology, Conditions prior to the	Ankit Mathur	Director; SDG Ventures Pte. Limited	Team Leader & Technical Expert: Mr. Tushar Eknath Chaudhari
	Saurabh Saraf	Director, OffsetFarm Pte Ltd.	
	Sapan deep	Data Manager, Greenway Grameen Infra	

Project initiation, Participation under other GHG program, sampling, procedure to avoid double counting, monitoring plan	Aditi Singh	Programme co ordinator, Field team – Greenway	
	Deepesh Suchak	Field team – monitoring survey, Greenway	
	Madhurjya Sarma	Program Manager, Global Himalayan Expedition (GHE)	
	Jaideep Bansal	CED, GHG Impact, Greenway	
	Tanfiz Hussain	Compliance officer, SDG Ventures Pte. Limited	

2.4 Site Visits

KBS has not conducted an on-site inspection for the validation process. Remote assessment was carried out and have been detailed in section 2.3 above. A reasonable level of assurance has been maintained through this 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

KBS applies the risk-based approach aimed at focusing on high-risk issues to the validation results whilst not omitting any part of the mandatory processes. A few discrepancies were found during the validation and the findings was submitted to the project proponent, indicated under the titles corrective action requests (CARs) and clarification requests (CLs). CARs and CLs require the PP to take relevant actions. Criteria for judging items as CAR or CL are as follows:

Corrective action request (CAR):

- the project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions
- the Voluntary Carbon Standard's requirements have not been met, or
- there is a risk that emission reductions cannot be monitored or calculated.

Clarification request (CL):

- Information is insufficient or not sufficiently clear to determine whether the applicable VCS requirements have been met.

FAR is to be raised to highlight issues related to project implementation that require review during the first verification of the project activity. FARs does not relate to VCS requirements for registration.

CARs and CLs are to be resolved or closed out if the PP modifies the project description, rectifies the PD or provides adequate additional explanations or evidence that satisfies the concerns. If this is not completed, the project activity cannot be recommended for registration under VCS registry.

02 CARs, 07 CLs and 01 FAR were found during validation and closed satisfactorily. The list of CARs/CLs raised and the response provided, the means of validation, reasons for their closure and references to correction in the VCS PD are provided in Appendix 3 of this report. The revised PD with changes incorporated as per the issues raised were rechecked with the documentary evidences and found to be inline.

2.5.1 Forward Action Requests

01 Forward Action Request is raised during the validation and is to be checked during next periodic verification. The FAR is presented in the Appendix of the validation report.

3 VALIDATION FINDINGS

3.1 Project Details

- Project scope, activity, type, technologies and measures implemented, and eligibility of the project.

A typical project instance under project activity will target rural and semi- urban households using low efficiency and higher GHG emitting stoves. Replacement of conventional firewood stoves with higher efficiency ICS models will be carried out in the targeted households. ICSs are more efficient than conventional firewood stoves as they reduce heat loss and improve heat transfer and combustion efficiency. Fuel efficient ICS models with improved heat transfer and combustion efficiency will be deployed, resulting in a decrease in fuel use in comparison to conventional pre-project stoves, while also reducing particulate matter and carbon emissions.

The project proponent aims to distribute 250,000 ICS in the first project instance of this grouped project with 50,000 ISC/year up to 5 years. 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. By reducing the consumption of wood fuel, it can contribute to improving public health problems. 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.

As confirmed through the remote interview with the ICS manufacturer and through review of technical specifications of selected model of ICS submitted by the manufacturer /7/, the technology deployed under the project activity is thermally efficient single stove, improved cookstoves (which is in compliance with the methodological requirements) and the ICS has an average lifespan of 7 years. It has been assessed by VVB that the stoves are planned to be distributed in a phased wise manner ,divided into 5 phases with the distribution of 50,000 ICS in each phase. Each distributed cook stoves in project will claim the VCU's up to the stated lifetime 7 years only. As the crediting period of the project is reported to be of 10 years, hence after the completion of 7 years, the batches which completed its life (Phase 1,2 and 3) will be excluded from the project and only that batch which have the remaining lifetime (batch 4 and 5) will continue to be part of the project.

Phase-I	Year-1	50,000	ICS
Phase-II	Year-2	50,000	ICS
Phase-III	Year-3	50,000	ICS
Phase-IV	Year-4	50,000	ICS
Phase-V	Year -5	50,000	ICS

The stoves which are distributed in year 1 shall not claim the credits once it meets its 7-year lifetime tenure . and the same process shall be applied for each respective phase. Any ICS will not claim the ERs beyond the lifetime of 7 year, so only iCS distributed in phase 4 & 5 will contribute in ERs till the end of the crediting period.

The revised ER sheet by the PP has been updated to include this clarity which was checked by the VVB and found consistent

VVB has cross verified that this is in line with the requirement of the applied methodology VMR0006-Methodology for Installation of High-Efficiency Firewood Cookstoves,ver 1.1, section 9.1, which states that *"Technologies aged beyond their useful lifetime, as established in the usage survey, are removed from the project and no longer credited"*

Greenway Jumbo stove has been tested for thermal efficiency of 38% as per water boiling test according to ISO 19867 test Sequence protocol and certified by third party (KIRDI Stove Testing Centre). The efficiency test report /13/ provided to assessment team was reviewed and it was concluded that the efficiency test was conducted in accordance with the procedure stipulated in the applied methodology VMR0006, version 1.1/2/.

The project involves energy efficient cookstove distribution which falls under the category of efficiency improvements in thermal applications, therefore it is eligible under the scope of VCS Program. The start date of the project is 01-June-2023 (Expected date of first distribution), which is

based on the date of commissioning of the first batch of ICS. The duration of crediting period is of fixed 10 years i.e., it starts from 01-June-2023 and ends on 31-May-2033.

The PP will enter into contractual agreement with the beneficiaries by virtue of which, the end user will confirm use of cook stove as well as transfer the VCU right to the Project Participant. The sample agreement /6/ was validated by the assessment team and found in line with the VCS-PD/1a/. A record keeping system and unique identification of the ICS will be done by user's information collected through the Beneficiary Agreement and compiled in distribution records, as set out in the "distribution and data sharing agreement"/21/ between PP and distributor. This will include username, identification number and address/location of the user's house, stove unique serial code and distribution date. The record keeping system will ensure that each ICS can be traced to project to avoid double counting. The unique identification described in the VCS PD/1a/, as part of eligibility criteria, ensures that the ICS distributed in this grouped project is not double counted in another project. Also, latitude/longitude of each user are determined in the project database. The means of validation related to conditions to avoid double counting are provided under section titled "eligibility criteria" in this report. The distribution of ICS is through an implementing and operating agency, selection process of which is determined as one of the eligibility criteria.

The estimated total amount of emission reductions over the chosen 10-year "fixed crediting period" is 7,902,040 tCO₂e. The estimated amount of emission reductions per annum are 790,204 tCO₂e. The project activity falls under large-scale project category since the annual average GHG emission reductions are more than 300,000 tCO₂e.

The Validation team has checked all the above-mentioned details and confirms that all the information provided is accurate.

Findings: CL 1 has been raised and successfully closed (Refer to Appendix 3 for further details).

- Project proponent

SDG13 Ventures Pte Ltd is the Project Proponent (PP), which is as per the submitted declaration /4/. The project activity has been developed by 'SDG13 Ventures Pte Ltd'. Therefore, project proponent has sole right to use the generated Emission reductions. Validation team confirms that the managing director/authorized signatory is the same person (Mr. Ankit Mathur), as mentioned in the section 1.5 of the VCS-PD. The same PP participated in the remote assessment conducted on 09-November-2022.

Other entity involved in the project is:

Organization name	Role in the project
SDG13 Ventures Pte Ltd	Project Proponent

Findings: CL 02 has been raised and successfully closed (Refer to Appendix 3 for further details). The validation team has confirmed that the same has been correctly mentioned in the VCS-PD.

- Project start date

In accordance with section 3.8.1 of VCS standard, Version 4.4 /09/, the project start date of a non-AFOLU project is the date on which the project began generating GHG emission reductions or removals. Accordingly, the start date of the project is considered as 01-June-2023 which is the expected date of distribution of first batch of ICS in the project activity. Based on the interview with the PP and the manufacturer of ICS, the validation team confirms that the start date of the project activity is reasonably determined.

- Project crediting period

The VCS Standard version 4.4 /09/ section 3.9.1 states that, “For non-AFOLU projects, the project crediting period shall be either seven years, twice renewable for a total of 21 years, or ten years fixed”. PP has chosen crediting period of ten years fixed for the project activity from 01-June-2023 to 31-May-2033 (including both days). The validation team confirms that the project crediting period is reasonably determined.

- Project scale and estimated GHG emission reductions or removals

The estimated volume of emission reduction from the project activity is more than 300,000 tons of CO₂e per year. The validation team confirms that the project activity falls under the category 2 ‘Large Projects’ as per para 3.10.1 of the VCS standard version 4.4 /09/, as it has the potential to reduce GHG emission more than 300,000 tCO₂e/year.

The estimated annual average and the total CO₂e emission reduction by the project activity over the fixed crediting period of 10 years are expected to be 790,204 tCO₂e/year and 7,902,040 tCO₂e respectively. The validation team confirmed that emission reduction forecast is reasonable if the underlying assumptions do not change.

- Project location

The grouped project will be hosted across North Eastern states of India and will cover the national boundary of the India. The project boundary is defined by the following GPS coordinates and is found to be consistent. Further, project GPS coordinates as provided in the VCS PD and which are presented below, have been verified through the means of google earth software.

The ICSs in this PA are located at various locations across North Eastern States as Indicated in section 1.1. The geographical coordinates of North Eastern states of India are:

Coordinates:

State	Latitude	Longitude
Meghalaya	25° 30' N	91° 00' E

Arunachal Pradesh	28° 00' N	95° 00' E
Assam	28° 00' N	95° 00' E
Manipur	24° 44' N	93° 58' E
Mizoram	23° 30' N	20° 52' E
Nagaland	26° 00' N	94° 20' E
Tripura	23° 45' N	91° 30' E

Conditions Prior to Project Initiation

PP claims that various research shows that, firewood was the main fuel used to suffice domestic needs. The publicly available research⁴ undertaken by TERI shows the following facts about the North Eastern states of India:

Table 1: Snapshot of Indian Himalayan States Wherein the Group Project is Planned to be Implemented.

States	Share of geographical area in the Indian Himalayan Region	Share of rural households using firewood as fuel for cooking
Arunachal Pradesh	0.16	0.85
Assam	0.03	0.81
Manipur	0.04	0.82
Meghalaya	0.04	0.94
Mizoram	0.04	0.81
Nagaland	0.03	0.92
Tripura	0.02	0.93

Usage of inefficient firewood leads to indoor air pollution and land use patterns have been showing a decrease in forest land cover and increase in degraded land. Increasing pressure from human and livestock population and indiscriminate and illegal exploitation of forest resources are among factors that have led to further intensification of the problem. A trend of forests turning into open scrubs has been observed. Degradation of forest lands has exacerbated the already existing problem of desertification. There is a need to maintain adequate forest cover in the state to mitigate climate change effects.

The purpose of the project is to reduce the demand for non-renewable biomass for household cooking needs. AS indicated in the above table that more than 70% of households in the identified project region

⁴ <https://www.teriin.org/article/firewood-consumption-and-forest-degradation-himalayan-states-review-research-gaps>

still cook using traditional biomass stoves and open fires. The project aims to reduce the environmental and social burdens caused by inefficient biomass cooking by introducing energy efficient wood stoves to low- income households.

As additional assessment based on VERRA Review observations, VVB has crosschecked and reconfirmed the data against latest available research paper of 2020- “Firewood consumption and extraction from community forests in East Khasi Hills District, Meghalaya: Its impact on woody species diversity and population structure” which reconfirms that , firewood was the main fuel used to suffice domestic needs. The other research paper in the context of Nagaland titled “Domestic Firewood Consumption Pattern and Degradation of Forest Cover: A Case Study of Mokokchung Town, Nagaland”.

VVB has also assessed the recent government data (Niti Ayog) from the report, “NORTH EASTERN REGION DISTRICT SDG INDEX REPORT & DASHBOARD 2021-22” was also cross checked which re-affirms that the project targets the distribution in the districts of North Eastern states wherein the access to clean cooking fuel is less than 30%.

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The VVB confirms the above claims by verifying provided supportive documents during the course of assessment.

Compliance with Laws, Statutes and Other Regulatory Frameworks

The validation team confirms that there are no laws and regulations governing which mandates the use of improved cookstoves in India. The project is a voluntary effort by the project proponent. Though, the government of India promotes use of clean fuel e.g., LPG, however due to the initial capital cost and operating cost, the usage levels are low and most of the rural households still use traditional stoves for cooking.

There is no specific concern made on improved cookstoves project from the above laws and regulations.

VVB confirms that Net GHG emission reductions or removals generated by this PA will not be used for compliance with any emissions trading program or to meet binding limits on GHG emissions as the host country i.e. India is not a participant in any emission trading programs or nor does it have any binding limits.

Ownership and other programs:

Project Ownership

The project Proponents for this grouped project are SDG13 Ventures Pte Ltd. The PP has stated in the VCS PD that during the registration of ICS, the participating household will sign a declaration to transfer the ownership rights of the carbon assets generated from this project to the project proponent; the validation team confirmed the same from the sample beneficiary agreement submitted by the PP /06/. However, the project ownership for each project instance, (satisfying the requirements of Section 3.7 of VCS Standard version 4.4), is to be verified from the respective start date of each project activity instance (i.e., the date upon which the project activity instance began reducing or removing GHG emissions).

Additional Information Relevant to the Project

Eligibility Criteria

This is a grouped project activity. Each new project instance will be confirmed against the eligibility criteria below. The eligibility criteria have been provided clearly in section 1.4 of the VCS PD /1a/ and then justification provided for inclusion of project activity instances.

No.	Eligibility criterion - Category	Eligibility criterion - Required condition	Supporting evidence for inclusion	VVB Assessment
1.	Defined geographical boundary	The new project instance boundary shall be confined to national boundaries of North East part of India, which includes seven hilly states. Northeast India (officially North Eastern Region, NER)	Records of household location under the customer registration database. For this instance, records of sales (customer registration database) with clear delineation of project boundary i.e. North East part of India, which includes seven hilly states. Northeast India (officially North Eastern Region, NER) is provided to the VVB for their reference.	Through the remote interviews, it is confirmed that the geographical boundary included is North East part of India, which includes seven hilly states. Northeast India (officially North Eastern Region, NER) and is consistent with the geographical boundary in the project Description.
2.	Conditional to avoid double counting	To prevent double counting of ICSs distributed under the project, ICS shall be uniquely marked, and new project instance implementers shall provide assurances/declarations that they are not included in any other CDM or Voluntary GHG	- Unique marking on each ICS (such as a Logo/Serial number/geo coordinate or batch number which identifies it as part of the new project instance together with the project database) - Written attestation from the project proponent confirming that the ICSs distributed in the new project instance are	Through the remote interviews and review of sample beneficiary agreement /6/, it is confirmed that the unique marking of the ICS will be done by user's information, collected through the Beneficiary

No.	Eligibility criterion - Category	Eligibility criterion - Required condition	Supporting evidence for inclusion	VVB Assessment
		offset schemes outside of this project	not part of any other CDM or Voluntary GHG trading scheme.	Agreement and shall be compiled in distribution records. Distribution records shall include username, identification number and address/location of the user's house, stove unique serial code, Geo coordinates and distribution date. The record keeping system will ensure that each ICS can be traced to avoid double counting. In addition, the PP shall submit a declaration confirming that the ICSs distributed in the new project instances are not part of any other CDM or Voluntary GHG trading scheme.
3.	The specifications of technology/measure including the level and type of service, performance specifications including	All technologies implemented in the project must demonstrate a minimum thermal efficiency of 25%.	Independent Third-Party lab testing certificate demonstrating thermal efficiency greater than 25% using testing protocol WBT4.2.1 or a more recent protocol where available.	As confirmed through the remote interview and through review of Product description and specifications /7/, the technology

No.	Eligibility criterion - Category	Eligibility criterion - Required condition	Supporting evidence for inclusion	VVB Assessment
	compliance with testing/certifications		Product description and specifications For this instance, lab test efficiency certificate for model distributed under this instance has clearly showing the efficiency above 25% will be submitted to VVB.	deployed under the project activity shall be thermally efficient (in compliance with the methodological requirements). The currently eligible ICS, Greenway Jumbo stove has been tested for thermal efficiency of 38% as per water boiling test according to ISO 19867 test Sequence protocol and certified by third party (KIRDI Stove Testing Centre). The efficiency test report provided to assessment team was reviewed and it was concluded that the efficiency test was conducted in accordance with the procedure stipulated in the applied methodology VMR0006, version 1.1. Similarly, for the other models of ICS, lab test reports will be verified

No.	Eligibility criterion - Category	Eligibility criterion - Required condition	Supporting evidence for inclusion	VVB Assessment
				when such models are introduced in this grouped project.
4.	Conditions to provide an affirmation that funding from Annex I parties, if any, does not result in a diversion of official development assistance	under this project, new project instance operators shall be required to provide an affirmation that funding from annex I parties, if any, does not result in a diversion of official development assistance	Individual new project instance operators shall sign ODA declarations for new project instances implemented by them to attest that no funding from annex 1 parties that leads to diversion of ODA has been used in the project. the statement shall specify whether or not annex 1 funding is used within the project. where funding is sought from annex 1 parties the ODA declaration shall be supported by details regarding annex 1 funding that affirms that the funding doesn't divert ODA For this instance, no funding from Annex-1 parties is received and hence, no ODA declaration is required.	As confirmed during the remote interviews and desk review of document stating that no funding from Annex-1 parties is received /4/ verified from the declaration provided by PP.
5.	The Group project-specific requirements stipulated by the project proponent	The local stakeholder consultation will be conducted at the initially during the group PD level. Each new project	The conditions to meet the requirements on undertaking the local stakeholder consultation have been	During the remote interviews and through the review of local stakeholder consultation report /5/, it has been

No.	Eligibility criterion - Category	Eligibility criterion - Required condition	Supporting evidence for inclusion	VVB Assessment
	including any conditions related to undertaking local stakeholder consultations and environmental impact analysis	instance/project will be implemented in similar social economic situations. The key stakeholders of the program both at group project activity and new project instance level are the same. No further actions needed at the new project instance level to satisfy the eligibility criteria.	proven in section further sections of this PD. The conditions to meet the requirements on undertaking the environmental impact assessment have been proven in the group PD.	confirmed that PP has conducted the Local stakeholder consultation. Thus, the eligibility criteria has been met for the new project activity instance under this group project.
6.	Where applicable, the conditions related to sampling requirements for the group project in accordance with the "Standard for sampling and surveys for CDM project activities and programme of activities"	Monitoring of all new project instances will adhere to all requirements related to sampling for a group project activity in accordance with the sampling guidelines including all annexes and amendments till EB 86 Annex 04.	Specification of the sampling methods applied and compliance with the sampling requirements are established at the group DD. For each new project instance, sampling will be undertaken as part of the group project activity sampling plan, and in the new project instance-PD describes how the group project activity sampling Plan is to be applied. For this instance, sampling plan is described in subsequent sections.	During review of VCS PD /1a/, it is confirmed that the sampling requirements are established as per Standard for sampling and surveys for CDM project activities and programme of activities /2d/.

No.	Eligibility criterion - Category	Eligibility criterion - Required condition	Supporting evidence for inclusion	VVB Assessment
7.	The project proponent shall include in a singular project all project activity instances within ten kilometers of another instance of the same project activity and with the same project proponent (i.e., instances of the same project activity may not be spread across more than one project if they are within ten kilometers of each other).	If the distributions of ICSs are within the 10 Km range by the same project participants, they will be included in single instance	PP states that the database with locations/address shall be shared during the monitoring to comply the requirement.	During the remote interviews it has been confirmed that database with locations/address shall be shared during the monitoring to comply the requirement If the distributions of ICSs are within the 10 Km range by the same project participants. Thus, the eligibility criteria has been met for the new project activity instance under this group project
8.	Approval of new project instance by project proponent	The project proponent approves each project instance to be included into its registered group project activity.	Statement of project proponent giving approval for the new project instance to be included into its registered group project activity. Since, for this instance project proponent is the implementer, no further approval is required, however for the cases, where implementer other than PP, an approval on the same shall be given by PP in	The validation team noted that for the first instance project proponent is the implementer; hence no further approval is required, however for the cases, where implementer other than PP, an approval on the same shall be given by PP in order to include the

No.	Eligibility criterion - Category	Eligibility criterion - Required condition	Supporting evidence for inclusion	VVB Assessment
			order to include the instance into this grouped project.	instance into this grouped project.
9.	Start Date of the New Instance	All future instances shall have the start date after the date of first instance.	The evidence to support the start date of future instances shall be furnished to VVB.	During the remote interview and through the review of documents viz., communication agreement with VERRA /16/, Sample beneficiary agreement with end users /06/, the validation team noted that the PP for the project is OFFSET FARM PTE LTD and SDG13 VENTURES PTE LTD. The sample agreement submitted to the validation team contained a provision which states that emission reductions generated by the ICS are owned by the project proponents which shall give the ownership of VCU to the PP. This will be verified during the verification when

No.	Eligibility criterion - Category	Eligibility criterion - Required condition	Supporting evidence for inclusion	VVB Assessment
				end user list is available.
10	Additionality	The new instance shall adhere the additionality requirements of the VMR0006.	The additionality demonstration as per the VMR0006 shall be established by each instance, the evidence of same shall be furnished to the VVB.	The validation team noted from interview with the PP that for the first instance, project proponent is the only implementer; Hence, no further requirements related to awareness and agreement on their instance to be subscribed under this grouped project, is required to be furnished. However, for the cases, where implementer other than PP, an agreement on the awareness between PP and new instance implementer shall be furnished. Thus, the eligibility criteria has been met for the new project activity instances under this group project.
11	Baseline and applicability	The new instance shall adhere the baseline and applicability	Baseline in conjunction with applicability assessment shall be	During desk review and interview it has been confirmed

No.	Eligibility criterion - Category	Eligibility criterion - Required condition	Supporting evidence for inclusion	VVB Assessment
		requirements of the VMR0006.	part of each instance and adhere the requirements of VMR0006. The baseline values shall be part of VVB validation.	that the first instance of this group will distribute the Greenway Jumbo model; the other models will be part of subsequent instances. For other models that will be distributed (Other than Greenway Jumbo), the separate WBT will be undertaken to determine the efficiencies of respective models. The validation team noted that this provision is mentioned as one of the eligibility criteria and included in the ex-ante parameters consistent with VCS PD.
12	VCU ownership	End users receiving ICSs under the specific new project instance contractually cede their rights to claim and own emission reductions under the VCS to the project proponent of the group project.	A default distribution agreement for end users including the provision that emission reductions generated by the stove are owned by the project proponent will be provided for each new project instance.	For the first instance of the group project, the PP has demonstrated compliance to methodology applicability conditions in section 3.2 of VCS PD /1a/. The

No.	Eligibility criterion - Category	Eligibility criterion - Required condition	Supporting evidence for inclusion	VVB Assessment
			Waiver of carbon credits from the end users are submitted to the VVB for this instance.	justification shall be part of 'Monitoring Report' during the first-time inclusion of any new instance.
13	Awareness and agreement of those operating a new project instance on group project subscription	Contractual provisions to ensure that those operating the new project instance are aware and have agreed that their activity is being subscribed to the new project instance.	Evidence for inclusion, in case new project instance operators are different from the project proponent: a declaration from project proponent/implementer, stating that they are aware and have agreed that their activity is being subscribed to the group project will be provided for each new project instance. Since, for this instance, project proponent is the only implementer, no further requirements related to awareness and agreement on their instance to be subscribed under this grouped project, however, for the cases, where implementer other than PP, an agreement on the awareness between PP and new instance implementer shall furnished.	The evidence to support the start date of future instances shall be furnished to VVB. FAR 01 is raised in this regard.

Findings: CL 04, CAR 02 has been raised and successfully closed (Refer to Appendix 3 for further details).

Sustainable Development contributions

The following sustainable development benefits are envisaged from the project activity.

- Distribute 250,000 high-efficiency, clean burning Greenway Jumbo Cookstoves in India, to benefit over 2 million individuals. (SDG 7.1.2).
- Reduce the total fuelwood usage in the project area to generate approximately 8.092 million tCO_{2e} of emission reductions. (SDG 13).
- PP also claims that project will significantly reduce Household Air Pollution (HAP) in rural households (SDG 3.9.1). This was validated during stakeholder interview during remote audit, wherein it discusses Household Air Pollution (HAP) due to inefficient burning of wood for cooking. The validation team noted that the by reducing the emission of noxious gases, by containing the fire in a closed chamber, and by reducing the quantity of wood required, the ICS offer a healthier and more sustainable cooking solution.
- PP also claims that project will reduce instance of non-communicable respiratory disease, such as Chronic Obstructive Pulmonary Disease (COPD) among adult family members, particularly women and the elderly. (SDG 3.4.1), wherein it discusses association between respiratory diseases and cooking practice in unvented indoor stoves, which is a common practice in North Eastern states of India. The validation team noted from the results of the study that indoor exposure to smoke from biomass combustion is a risk factor for TB. By containing the fire in a closed chamber, the ICS offer a healthier and more sustainable cooking solution.
- Reduce the risk of mortality among infants and children under five years of age due to (1) acute lower respiratory illnesses (ALRI), such as pneumonia and bronchitis, the cause of mortality in 12% of children under five, and (2) burns resulting from children falling into open cooking fires. (SDG 3.2.1, 3.2.2), wherein it is mentioned that Household Air Pollution (HAP) due to inefficient burning of wood for cooking is responsible for premature deaths each year in rural areas.
- Reduce the proportion of time women spend on unpaid domestic work related to collection of firewood, and cooking meals on inefficient traditional cookstoves. (SDG 5.4.1). The validation team noted that due to less wood consumption, the HHs will have to collect lesser firewood and therefore the project will result in time savings for the Households.

Leakage Management

Not Applicable to this project activity.

Commercially Sensitive Information

No commercially sensitive information has been excluded from the public version of the project description.

The validation team concludes that the project description is accurate, complete, and provides an understanding of the nature of the project.

3.2 Safeguards

3.2.1 No Net Harm

No potential negative environmental or socio-economic impacts have been identified for the project and has been confirmed through the review of project technology.

3.2.2 Local Stakeholder Consultation

As confirmed through the remote interview and through supportive documents/5/, it was confirmed that the local stakeholder consultation for the grouped project activity was conducted on 04th May 2022 from. Stakeholders (such as baseline stove users, representatives from local self-help groups, field assistants, NGOs) were invited through email and newspaper advertisement (on 06th April 2022) in the local newspaper. Therefore, the validation team noted that the stakeholders were invited almost 32 days prior to the meeting, which is reasonable. Further, online participation of the stakeholders was encouraged and detailed contact information of the representative of the project implementer were also made available.



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Contractors accused of using second-hand pipes

Tongkhaw warns against shortcuts in JJM

Staff Reporter
Shillong, April 6: The state government has issued a warning to the contractors of the second-hand water supply scheme (GWSWS) phase-II.

Following this today, Minister-in-charge Public Health Engineering (PH), Tongkhaw, said that the second-hand water supply scheme (GWSWS) phase-II is a project of the state government and it is not a private project. He said that the project is a public project and it is not a private project. He said that the project is a public project and it is not a private project.

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Govt ready to check army vehicles for drugs

Staff Reporter
Shillong, April 6: Home Minister Lakhmin Khyntol today said that the state government is ready to check army vehicles for drugs.

He said that the state government is ready to check army vehicles for drugs. He said that the state government is ready to check army vehicles for drugs. He said that the state government is ready to check army vehicles for drugs.

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Police probing bomb threat

Staff Reporter
Shillong, April 6: The state police is investigating a bomb threat against the state government.

He said that the state police is investigating a bomb threat against the state government. He said that the state police is investigating a bomb threat against the state government. He said that the state police is investigating a bomb threat against the state government.

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Man takes the law into his own hands

Staff Reporter
Shillong, April 6: A man has been arrested for taking the law into his own hands.

He said that the man has been arrested for taking the law into his own hands. He said that the man has been arrested for taking the law into his own hands. He said that the man has been arrested for taking the law into his own hands.

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Govt releases Rs 60 cr for SSA teachers' dues

Staff Reporter
Shillong, April 6: The state government has released Rs 60 crore for SSA teachers' dues.

He said that the state government has released Rs 60 crore for SSA teachers' dues. He said that the state government has released Rs 60 crore for SSA teachers' dues. He said that the state government has released Rs 60 crore for SSA teachers' dues.

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Govt yet to appoint new DGP

Staff Reporter
Shillong, April 6: The state government has not yet appointed a new DGP.

He said that the state government has not yet appointed a new DGP. He said that the state government has not yet appointed a new DGP. He said that the state government has not yet appointed a new DGP.

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HC wants action report on prevention of 'loot of minerals'

Staff Reporter
Shillong, April 6: The High Court has asked for an action report on the prevention of 'loot of minerals'.

He said that the High Court has asked for an action report on the prevention of 'loot of minerals'. He said that the High Court has asked for an action report on the prevention of 'loot of minerals'. He said that the High Court has asked for an action report on the prevention of 'loot of minerals'.

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Students miss exams because of landslides

Staff Reporter
Shillong, April 6: Students have missed exams due to landslides.

He said that students have missed exams due to landslides. He said that students have missed exams due to landslides. He said that students have missed exams due to landslides.

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Details of the project technology, its impacts, benefits, environmental and socio-economic issues were found discussed with the participants and their concerns if any were found asked. The meeting was concluded with no negative comments. Further, it was confirmed during the remote assessment that the stakeholders have been provided with access to the contact details of the project participant. Also, the stakeholders are well informed about the grievance redressal procedure announced during the stakeholder consultation and asked to reach out to the project participant or their local representatives in case of any concern. Therefore, in line with the requirements of section 3.18.3 to 3.18.5 of VCS

standard version 4.4, validation team confirmed that the project participant has established a mechanism for on-going communication with the stakeholders.

3.2.3 Environmental Impact

No negative environmental impacts, as the project involves dissemination of improved cookstoves, hence, environmental impact assessment (EIA) is not required for the project.

3.2.4 Public Comments

Validation team confirms that the project was listed on VCS website <https://registry.terra.org/app/projectDetail/VCS/3162> and was open for public comments from 31-August-2022 to 30-September-2022. No comments were received during the 30 days' period.

Findings: CAR 01 has been raised and successfully closed. (Refer Appendix 3 for further details)

3.2.5 AFOLU-Specific Safeguards

The project is non-AFOLU projects, this section is not applicable.

3.3 Application of Methodology

3.3.1 Title and Reference

Following approved baseline & monitoring methodology is applied;

Methodology: VMR0006- Methodology for Installation of High Efficiency Firewood Cookstoves

Version: 1.1

Sectoral Scope: 03

Tools:

"TOOL30: Calculation of the fraction of non-renewable biomass"; Version-03, EB 108, Annex-11.

3.3.2 Applicability

As per applied approved methodology the applicability requirements are:

S. No	VCS Methodology requirement	Project justification	VVB Assessment
1	The project stove is a single pot or multi pot portable or an in-situ cookstove using only woody biomass; Additional requirement to demonstrate that the biomass used is solely renewable biomass in case	The proposed instances will distribute high efficiency single-pot improved cook stove for thermal application, which will replace inefficient traditional cookstove leading to saving of non-renewable biomass. The ICS	As confirmed through the remote interview and through the documents, the technology deployed under the project activity shall be thermally efficient single stove, improved cookstoves

	project activities replacing baseline stoves using fossil fuel	to be distributed under the project activity is Greenway Jumbo stoves/greenway stoves. All ICS in this project will replace existing traditional wood stoves; therefore, no greenfield installations are included. Further, the project activity will utilize only renewable biomass under project scenario. This criterion will be checked from data recorded on the baseline stove used prior to ICS installation.	(in compliance with the methodological requirements) and having an average lifespan of 7 years. The currently eligible types of cookstoves to be distributed include the Greenway Jumbo stoves, Greenway stoves (Smart, prime, uno) and any additional type of ICS that meet the requirements of the methodology.
2	Project activities shall be implemented in domestic premises or in community-based kitchens	The project activity will replace traditional wood-based stove in individual households or community-based kitchens in rural/semi urban areas.	As confirmed from the remote interviews, replacement of conventional firewood stoves with higher efficiency ICS models will be carried out in the domestic households or community-based kitchens of rural/semi urban areas.
3	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; in case of project stove replacing fossil fuel baseline stove, it shall exclusively use renewable biomass	The Greenway or Greenway Jumbo single pot portable improved cooking stoves planned to be distributed have a specified efficiency of 38% as per water boiling test in compliance with Tier II and above as per ISO as tested and certified by third party.	Based on the remote interviews and through the review of efficiency test report VVB confirms that the Greenway Jumbo stove has been tested for thermal efficiency of 38% as per water boiling test according to ISO 19867 test Sequence protocol and certified by third party (KIRDI Stove Testing

			Centre). Therefore, all the distributed cookstove types shall have specified high-power thermal efficiency of at least 25% as per the manufacturer's specifications, in line with methodological requirements.
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	The survey conducted by the various CDM programmes e.g. PoA 9572 conducted in 2018 demonstrated that the time needed to gather firewood, the price of firewood and the distance travelled to gather firewood is increasing at least since December 1989. In that survey the respondents were asked to provide averages for the time needed to gather firewood, the distance travelled and the price. The average of the estimates from all respondents, showed a clear increase on all three indicators. The programme of activity is already renewed and approved by the CDM EB. Therefore the credible values used for the instance.	PP has been able to demonstrate that fire-wood is the baseline fuel used in conventional cooking stoves. Through publicly available sources /20/, it is evident that majority of inhabitants use fire-wood as primary fuel for cooking/thermal energy needs. Further the baseline survey report /15/ referred in the registered project, CDM PoA 9572 /18/ confirms that firewood is the only option for the end users to use as fuel for thermal energy needs. Therefore, validation team confirms that the above baseline scenarios are relevant, and correctly quoted and interpreted in the project description. The baseline scenarios 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/02/ and is justified.
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 emissions associated with the processing of the displaced fossil fuel and hence disregarded	The ICS is introduced as energy efficiency measure to replace baseline stoves and reduce the use of non-renewable biomass for combustion. The consumption of the fuel used in the project activity will be monitored.	Through the remote interviews it is confirmed that the grouped project activity shall disseminate energy efficient biomass based cookstoves to replace the baseline stoves and these stoves shall not be fired with any other type of fuel and briquettes shall be utilized for the project. . However, if any other type of fuel is used, then project emissions shall be calculated accordingly.
6	The project description 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).	A record keeping system and unique identification of the project device will be used. This will include user name, user identification number and address/ location of the user's house and distribution date. The record keeping system will ensure that each ICS can be traced to	The validation team by means of remote 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 and end-user details

		project instances to avoid double counting.	(name, address etc). Therefore, the validation team confirms that the record keeping system will eliminate double counting.
7	The project description 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 project proponent will sign an end user agreement with individual household/user to ensure only PP can claim the emission reduction. A default distribution agreement for end users including the provision that emission reductions generated by the stove are owned by the PP will be provided for each user.	During the remote interview and the review of sample beneficiary agreement, it has been confirmed that an agreement will be signed between the users and the PP, which shall give the ownership of VCU to the PP.

As per the tool 30: Calculation of the fraction of non-renewable biomass

S.No.	Applicability criterion	How the project complies	VVB Assessment
1	This tool may be used by: (a) DNAs to submit region- or country-specific default f_{NRB} values, following the procedures for development, revision, clarification and update of standardized baselines (SB procedures); or (b) project participants to calculate project- or PoA-specific f_{NRB} values.	Option (b) applied to calculate the project specific f_{NRB} value as described under section 4.1 of the PD.	PP has submitted a spreads sheet which is calculated as per the tool and therefore, justifies the f_{NRB} value for the project activity. The f_{nrB} is being calculated by the PP for the project regions only i.e. limited to the north eastern states of India The validation team also noted that the input values and its sources are endorsed by the 'Ministry of Environment' itself in the letter and hence deemed authentic.

3.3.3 Project Boundary

As per applied methodology /2/, the project boundary is the physical, geographical site of the efficient devices that utilize biomass. Therefore, the project boundary covers each project ICS location. The PP has stated that the project activity distributes ICS in entire geographical location of North Eastern states of India and hence the project boundary covers all the districts of North Eastern states of India. The

validation team was able to confirm that all the identified emission sources which are impacted by the project activity are addressed by the approved methodology and can be seen in the Table below. The validation team concludes that the project boundary is correctly identified in accordance with the methodology. All greenhouse gas emissions (CO₂) occurring within the proposed project activity boundary as a result of the implementation of the proposed project activity have been appropriately addressed in the VCS PD.

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 ₂ O	Yes	Major source
		Other	No	No other source identified
	Production & Transport of Fuel	CO ₂	No	Baseline and project fuels are same thus no transportation and production triggering from project activity.
		CH ₄	No	Baseline and project fuels are same thus no transportation and production triggering from project activity.
		N ₂ O	No	Baseline and project fuels are same thus no transportation and production triggering from project activity.
		Other	No	Baseline and project fuels are same thus no transportation and production triggering from project activity.
Project	Emission from use of non-renewable biomass	CO ₂	Yes	Major source
		CH ₄	Yes	Major source
		N ₂ O	Yes	Major source
		Other	No	No other source identified
	Production & Transport of Fuel	CO ₂	No	Baseline and project fuels are same thus no transportation and production triggering from project activity.
		CH ₄	No	Baseline and project fuels are same thus no transportation and production triggering from project activity.
		N ₂ O	No	Baseline and project fuels are same thus no transportation and production triggering from project activity.
		Other	No	Baseline and project fuels are same thus

				no transportation and production triggering from project activity.
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3.3.4 Baseline Scenario

The baseline scenario is the continued use of non-renewable wood fuel (firewood) by the target population to meet similar thermal energy needs as provided by project cookstoves in absence of project activity.

PP has been able to demonstrate that fire-wood is the baseline fuel used in conventional cooking stoves. Through publicly available sources⁵, it is evident that majority of inhabitants use fire-wood as primary fuel for cooking/thermal energy needs.

Therefore, validation team based on review of the VCS PD/1a/ confirms that the above baseline scenarios are relevant, and correctly quoted and interpreted in the project description. The baseline scenarios 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/02/ and is justified.

3.3.5 Additionality

PP has demonstrated additionality based on the activity method of applied methodology VMR0006 version 1.1, as per which the following steps have been followed:

Step 1: Regulatory Surplus

Through the review of related policies /12/ and validation team's sectoral expertise, it is confirmed that there is no mandated government programme or policy in host country (India) ensuring the distribution of domestic fuel-efficient cookstoves. The policies relevant to the program are 'The Energy Conservation Act 2001 and it's subsequent Amendments'. Also, PP has declared voluntary participation in the project as it is not mandated by any law, statute or other regulatory framework.

Step 2: Positive List

As confirmed through the remote interviews and details presented in section 3.5 of VCS PD, the PP is charging a minimal amount of around 500 INR/ICS as administrative cost from the households. The same has been cross verified during remote audit interview of the top management. Since the project is yet to implement the actual evidence is not available at this stage. The information provided top management during remote audit interview is suffice to justify that PP has not distributing/provided the ICS at Zero cost to end user and project involves other source of revenues other than the sale of GHG credits. The PP informed that this cost is charged just to avoid misuse of ICS. The project is not implemented as part of government schemes and are not supported by multilateral funds. This was

⁵ <https://www.teriin.org/article/firewood-consumption-and-forest-degradation-himalayan-states-review-research-gaps>

evidenced from the declaration submitted by the PP /4/. Since the project stoves are not provided at zero cost, it is not eligible to claim additionality as positive list under applied methodology. Therefore, PP has applied step 3 (project method) for demonstration of additionality.

Step 3: Project Method

Since the project stoves are not provided at zero cost to the end-user, the project activity has applied investment analysis method set out in the CDM tool “Tool for demonstration and assessment of additionality” Version-7.0.0 EB 70 Annex-08” /2a/ to determine that the proposed project activity is either 1) not the most economically or financially attractive or 2) not economically or financially feasible.

As per step 1 of the tool, project alternatives have been accurately considered as per paragraph 20 a) and c) of the applied tools i.e.

Alternative 1: The project activity carried out without registration under VCS and

Alternative 2: Continuation of the baseline scenario.

Based on the sectoral expertise of the validation team, the two alternatives considered have been evaluated to be the most credible scenarios for the grouped project.

The alternate (2) is the baseline and less costlier than the project and therefore the alternate 1 is project activity., the three stones are free of cost and doesn't require any capital expenditure.

Validation team also confirmed that there are no laws and regulations governing the use of improved cookstoves in North Eastern states of India for households. The project is a voluntary effort by the project proponent. Though, the government of India promotes use of clean fuel e.g. LPG, however, the baseline scenario hasn't improved much as the use of LPG is associated with operational cost.

Further, confirmed through the remote interviews, distribution of cookstoves at a subsidized rate shall be carried out therefore, no economic benefit except from the sales of the Verified carbon units is envisaged. So, simple cost analysis, as per option 1 method under sub step 2b has been applied by the PP, which is acceptable to the validation team. In the VCS PD, PP mentioned that the actual cost of ICS sale is INR 3,499/ICS. The same has been cross verified the sample copy of actual tax invoice /17/ and found appropriate. As confirmed during the remote interview, the financial return from the grouped project is lower than cost incurred. The PP is making loss Of INR 2999/ICS, the actual cost of the ICS was validated from the invoice raised by the ICS manufacturer. Also, the validation team noted that the PP incurs recurring expenditures for maintaining a team for supply chain, maintenance and repair and therefore, carbon revenue is required to support the project. Moreover, there is no direct financial return to the users and hence, will create a barrier to the rural/semi-urban consumers for procuring ICSs. The actions envisaged by the PP under the project will alleviate these barriers by promoting distribution of ICSs to end-users at an affordable price. Hence the project faces investment barrier and is considered to be additional.

Barrier analysis method has not been chosen by the PP as the additionality has been demonstrated by simple cost analysis. In addition, the validation team noted that the project is not a common practice in the host country. It is evidenced from review of an article published in “Why Have Improved Cook-stove Initiatives in India Failed?”⁶ investigates the various reason and concluded that price of improved cook stove was one of reason apart many others. Therefore, it is clear that from the research that using the improved cook stove is not a common practice in India and specially in the tribal areas of North Eastern states where the cookstoves are planned to be distributed under this group project.

Findings: CL 03 has been raised and successfully closed. (Refer Appendix 3 for further details).

3.3.6 Quantification of GHG Emission Reductions and Removals

The equation and choices provided in the methodology and all other methodological tools are correctly quoted in the PD /1a/. 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)/02/.

Validation team based on the review of the PD /1a/, 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/1a/, 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/1a/ and ER spreadsheet/03/ and methodologyVMR0006 (version 1.1)/02/.

According to applied methodology VMR0006 (version 1.1) /02/ the emissions are calculated as below:

Baseline Emissions

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

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

Where;

<i>i</i>	Indices for the situation where more than one type/model of improved cookstove is introduced to replace three-stone fire
<i>j</i>	Indices for the situation where there is more than one batch of improved cookstove of type <i>i</i>

⁶ https://clas.uiowa.edu/gwss/sites/clas.uiowa.edu.gwss/files/Why%20Have%20ICs%20Failed_Post-Print_Oct_2016.pdf

ER_y	Emission reductions during year y in t CO ₂ e
$ER_{y,i,j}$	Emission reductions by improved cookstove of type i and batch j during year y in t CO ₂ e

$$ER_{y,i,j} = B_{y,savings,i,j} \times NCV_{wood\ fuel} \times f_{NRB,y} \times (EF_{wf,CO_2} + EF_{wf,non\ CO_2}) \times N_{y,i,j} \times 0.95 \quad \text{Equation (2)}$$

Where;

$f_{NRB,y}$	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,CO_2}	CO ₂ emission factor for the use of wood fuel in baseline scenario (IPCC default for wood fuel, 112 tCO ₂ /TJ)
$EF_{wf,non\ CO_2}$	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 $B_{y,savings,i,j}$ due to implementation of improved cook stoves has been estimated using Equations 4 of applied approved methodology:

$$B_{y,savings,i,j} = B_{y=1, new,i,survey} \times ((\eta_{new,i,j}/\eta_{old})-1) \dots\dots\dots \text{Eq.4}$$

Where,

$\eta_{new,i,j}$ = 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 5 of applied approved methodology

$B_{y=1, new,i,survey}$ = Annual quantity of woody biomass used by improved cook stoves 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

The efficiency of the project stoves can be estimated using equation below

$$\eta_{new,i,j} = \eta_P \times (DF_n)^{y-1} \times 0.94 \dots\dots\dots \text{Eq.5}$$

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.

In order to address the potential source of leakage which can be attributed to diversion of non-renewable biomass saved by project devices to non-project households which previously used renewable biomass; a net to gross adjustment factor of 0.95 is applied to $ER_{y,i,j}$.

For projects opting for $B_{y=1,new,i,j,survey}$, it shall be demonstrated that the consumption of biomass for individual project stoves can be measured exclusive of one another.

For ex-ante estimates:

Determination of the fraction of fuel type (non-renewable biomass):

Fraction of woody biomass that can be established as non-renewable biomass (fNRB) is calculated following procedures outlined in the tool to calculate fraction of NRB /2b/ referred in the CDM methodology AMS-II G, version 12 /2c/. The PO has submitted spreadsheet/11/, where fNRB calculations are presented and the same were found to be consistent with the CDM tool 30. The resulted fNRB is 87.48%. The PP has presented the calculations separately in an Excel spreadsheet /3a/ and this calculation is included in the ER calculation Excel sheet /3/. The f_{nrB} is being calculated by the PP for the project regions only i.e. limited to the north eastern states of India. The calculations are verified to be in line with the CDM Tool 30, version 03, a valid version at the time of validation.

VVB has crosschecked the Fraction of non-renewable biomass (fNRB) following the procedures outlined in the tool to calculate the fraction of NRB, "Tool 30: Calculation of the fraction of non-renewable biomass version 03", referred in the CDM methodology AMS-II. G, version 12. As the tool allows the data vintage up to year 2000 therefore the consideration of 2011 data to calculate fNRB (87.48%) after demonstrating the conservativeness over 2019 data (fNRB- 89.92%) gives a reasonable level of assurance.

Findings: CL 05 and CL 06 have been raised and successfully closed. (Refer Appendix 3 for further details)

Project Emissions

The applied methodology does not account for project emissions separately, but instead quantifies emission reductions as a function of the reduction in the amount of non-renewable biomass fuel consumption in the efficient project stoves as compared to baseline stoves. This quantification is carried out. This complies the requirements established in section 8.2 of the applied methodology.

Leakage

Leakage is already accounted in calculation of emission reduction by adjusting with default value of 0.95. This is as per section 8.3 of the applied methodology.

Emission Reduction

Year	Estimated baseline emissions or removals (tCO ₂ e)	Estimated project emissions or removals (tCO ₂ e)	Estimated leakage emissions (tCO ₂ e)	Estimated net GHG emission reductions or removals (tCO ₂ e)
2023-24	338,704	0	0	338,704
2024-25	618,715	0	0	618,715
2025-26	867,225	0	0	867,225
2026-27	10,87,766	0	0	10,87,766
2027-28	1,283,474	0	0	1,283,474
2028-29	1,118,432	0	0	1,118,432
2029-30	992,511	0	0	992,511
2030-31	744,001	0	0	744,001
2031-32	523,460	0	0	523,460
2032-33	327,752	0	0	327,752
Total	7,902,040	0	0	7,902,040

The total emission reduction is 7,902,040 tCO₂e over 10 years fixed crediting period.

Through the validation process KBS has confirmed that:

- All the assumptions and data used by the project participants are listed in the PD including their references and sources;
- All documentation used by the project participants as the basis for assumptions and source of data is correctly quoted and interpreted in the PD;
- All values used in the PD are considered reasonable in the context of the VCS project activity;
- The baseline methodology has been applied correctly to calculate project emissions, baseline emissions, leakage and emission reductions;

All estimates of the baseline emissions can be replicated using the data and parameter values provided in the PD.

3.3.7 Methodology Deviations

The project activity has used the VMR0006 version 1.1 and the PP has completely followed the methodology for the development of the VCS PD. The validation team has confirmed that the PP does not make any deviations from the applied methodology.

3.3.8 Monitoring Plan

The monitoring plan is in line with the applied methodology VMR0006, version 1.1 /02/. The monitoring plan will give opportunity for real measurement of emission reductions achieved. Since the project is distribution of ICS, the methodology does not account for baseline emissions separately but instead quantifies net emission reductions achieved by the project. The leakage is accounted in calculation of emission reduction by adjusting with the default value of 0.95. The action plan for monitoring has been included in section 5.3 of the VCS PD /1a/.

As per observation identified by VERRA , the PD has been now updated to provided additional information for QA/QC procedures to be undertaken and the same has been assessed by VVB team.

QA/QC:

Following QA/QC will be undertaken

- Sampling will be undertaken by the trained surveyors of PP/Implementation partner.
 - The database will be recorded online with following information:
 - The following is the minimum information that must be captured for each project device in order to be eligible for inclusion in the project:
 - Date of sale
 - Geographic area of sale
 - Model/type of project technology sold/distributed
 - Quantity of project technologies sold/distributed
 - Name and telephone number (if available), and address of recipient
 - unique identification alpha/numeric ID for each device that is sold/distributed
 - PP and implementation partners will do the annual review of database, customer complaints
 - HHs will be consulted during the monitoring surveys on the feedback and improvements
-
- Data and parameters available at validation

Following parameters are fixed for the entire crediting period and are mentioned in section 5.1 of the VCS PD.

Parameter	Unit	Value	Source/Justification
NCV_{woodfuel} Net calorific value of the non-renewable woody biomass that is substituted or reduced	TJ/tonne	0.0156	The IPCC default value for wood fuel, is sourced from applied approved methodology VMR0006, v1.1.
EF_{wf,CO2} CO ₂ emission factor for the use of wood fuel in baseline scenario	tCO ₂ /TJ	112	The IPCC default value for wood fuel is sourced from applied approved methodology VMR0006, v1.1.
EF_{wf,non CO2} The non-CO ₂ emission factor for the use of wood fuel in baseline scenario	tCO ₂ /TJ	26.23	The IPCC default value for wood fuel is sourced from applied approved methodology VMR0006, v1.1.
f_{NRB,y} Fraction of non-renewable biomass saved by the project activity	Fraction	0.8748	The value is calculated following procedures outlined in the tool to calculate fraction of NRB, "Tool 30: Calculation of the fraction of non-renewable biomass version 03" /2b/, referred in the CDM methodology AMS-II. G, version 12. The validation team reviewed and accepted that the value calculated is in accordance with the CDM Tool 30, version 03. The data source that are been referred in the excel sheet (NorthEast Region Consolidated f_{NRB} 2011 data dated 29-March-2024, version 3)/3a/ was cross verified with the web page link/22/ provided for calculation of f_{NRB}. Thus, the VVB confirms the data is free from any material misstatements. VVB also took a note that PP has applied 0.5kg/m³ wood density in the calculations which is more conservative than the actual value 0.7 kg/m³. Thus, the calculated f_{NRB} value is

			conservative and accepted by the VVB.
η_{old} Efficiency of baseline cookstove	Fraction	0.1	The default value is sourced from applied approved methodology VMR0006, v1.1 /02/ based on the baseline devices. During remote interview, the validation team noted that the baseline device is a three-stone fire using firewood or a conventional device with no improved combustion air supply. Hence the choice of default value is deemed appropriate.
η_P Efficiency of project stove at the start of project activity	Fraction	0.38	It is confirmed during interview that the first instance will distribute Greenway Jumbo model and for this model, the efficiency is defined ex-ante. The value is sourced from Certification by a national standards body, (KIRDI Stove Testing Centre) /13/. For any new model of ICS included in future instances, the efficiency shall be defined at the time of inclusion in group project. Hence for the new models, the parameter is included as monitored parameter.

Findings: CL 04 has been raised and successfully closed. (Refer Appendix 3 for further details)

- Data and parameters monitored

Following parameters are monitored during the crediting period and are mentioned in section 5.2 of the VCS PD. :

Parameter	Unit	Source/Justification
-----------	------	----------------------

$B_{y=1,new,i,j,survey}$ 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	Tonnes	For ex-ante assumed 1.35 tonne/device/year for the calculation of ex-ante ERs, however the actual value shall be part of ex-post monitoring and will be determined by the surveys on project stoves. $B_{y=1,new,i,j,survey}$ is assumed as 1.35 t for ex-ante based on professional and sectoral experience of the project operator and shall be monitored ex-post. PP has a vast portfolio of ICS projects under various GHG schemes. The results are based on the experience of PP based on the infield monitoring in India for other VCS project.
$N_{y,i,j}$ Number of project devices of type I and batch j operating during year y	Number	The value will be checked from the Stove distribution record and monitoring survey records. The surveys will be conducted at least once every two years (biennial) and the sample size shall be determined based on 95/10 confidence/ precision in compliance with the latest version of sampling standard. The number of operating stoves for each device i and batch j shall be determined on a sampling basis through a sampling survey.
$\eta_{new,i,j}$ Efficiency of the device of each type i and batch j implemented as part of the project activity	Fraction	The value will be checked from the Manufacturer's Specification or/and Certification by a national standards body or an appropriate certifying agent recognized by that body.

Life span 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	Years	Life span to be monitored as per manufacturer specification and fixed and recorded at the time of commissioning/distribution.
Date of commissioning of batch j To establish the date of commissioning, the Project Participant may opt to group the devices in “batches” and the latest date of commissioning of a device within the batch shall be used as the date of commissioning for the entire batch	Date	PP shall record the actual date of commissioning of the project device at the time of commissioning/distribution.
μ_y Adjustment to account for any continued use of pre-project devices during the year y	Fraction	The number of stoves still operating will be determined based on the biennial monitoring surveys. The PP confirmed through interview that the monitoring will be done once in two years (biennial) and will apply one of the below methods for monitoring as per the applied methodology: 1. If the pre-project devices are decommissioned and no longer used, as determined by the monitoring survey its value is 0 and Bold, adjusted is equal to Bold. 2. If both the improved cookstove and baseline cookstoves are used together then surveys shall be conducted to record the average continued operation of baseline cookstoves in a sample of households. 3. A 95/10 confidence/ margin of error shall be achieved for the sampling parameter irrespective of monitoring frequency as per para 22 of Standard: Sampling and surveys for CDM project activities and programmes of activities,

		Version 09.0. In case of failure to achieve the desire 95/10, lower bound values shall be used to ensure conservativeness.
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Findings: CL 05, CL 06 has been raised and successfully closed. (Refer Appendix 3 for further details)

Sample Plan:

As confirmed during the remote interview, the sampling shall be carried out based on the Standard: Sampling and surveys for CDM project activities and programmes of activities, Version 09.0. /2d/. PP has opted for representative sampling due to the dissemination of large number of ICS under the project, which will involve grouping and sampling across project instances. The confidence and precision as per Standard for Sampling and Surveys for CDM Project Activities and Programme of Activities shall be applied at the time of sampling. The validation team noted that the sampling is done to obtain an unbiased and reliable estimate of the parameters, $\mu_{y,i,j}$, Adjustment to account for any continued use of pre-pre-project devices during the year y and $N_{y,i,j}$, Number of project devices of type i and batch j operating during year. The PP has informed that 95/10 is the chosen confidence/precision for the parameters. This confidence/precision is much more accurate than the confidence/precision prescribed in the applied methodology (90/10). The same is described in section 5.3 of the VCS PD. The validation team confirms that the sampling method is clearly described in line with the description of the population and that the sampling plan transparently describes how the samples are selected.

Validation team confirms that the overall monitoring plan complies with the requirements of the methodology VMR0006 /02/; the monitoring arrangements described in the monitoring plan are feasible within the project design and the project proponents will be able to implement the described monitoring plan.

Findings: CL 07 has been raised and successfully closed. (Refer Appendix 3 for further details).

3.4 Non-Permanence Risk Analysis

Non-permanence risk analysis is not applicable as the Project is not an AFOLU (Agriculture, Forestry and Other Land Use) project.

4 VALIDATION OPINION

SDG 13 Ventures Pte. Ltd. has commissioned KBS Certification Services Ltd. to do VCS validation of the project activity: "Holistic Development Of North East India Through Clean Energy Access" having VCS ID

3162, with regard to the relevant requirements of VCS Standard version 4.4; to attain real, measurable, additional and permanent emission reductions.

The proposed project activity seeks to increase access of households and communities to improved cookstoves by disseminating high thermal efficiency and low greenhouse gas emitting cooking stoves known as Improved Cook Stoves (ICS) to the rural and semi-urban households of North Eastern states of India. The improved cook stoves through replacement of inefficient traditional cook stove will contribute towards reduction of greenhouse gas emission resulting in the reduction of firewood consumption leading to climate change mitigation in a sustainable manner.

A risk-based approach has been followed to perform this validation. In the course of the validation 02 Corrective Action Request (CAR) and 07 Clarification Request (CL) were raised and successfully closed. 01 FARs raised during the validation.

The validation is based on the VCS PD (version 05 dated 12 June 2023), additional documents related to baseline and monitoring methodology; the subsequent background investigation, follow-up interviews and supporting documents made available to the validation team by project proponent.

As a result of the validation, the validation team confirms that:

- The project fulfils criteria of VCS Standard Version 4.4.
- The project is in line with all relevant VCS requirements.
- The project baseline is sufficiently justified in the PD.
- The calculation of the project emission reductions is carried out in a transparent and conservative manner, so that the calculated emission reductions of 7,902,040 tCO₂e is most likely to be achieved within the 10 years of fixed crediting period.

No restrictions or uncertainties were identified related to the validation.

Validation period must be broken down into calendar year vintages: From [day-month-year] to [day-month-year]

Validated GHG emission reductions and removals in the above period:

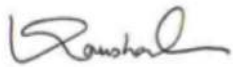
Year	Estimated GHG emission reductions or removals (tCO ₂ e)
01-June-2023 to 31-May-2024	338,704
01-June-2024 to 31-May-2025	618,715
01-June-2025 to 31-May-2026	867,225
01-June-2026 to 31-May-2027	1,087,766

01-June-2027 to 31-May-2028	1,283,474
01-June-2028 to 31-May-2029	1,118,432
01-June-2029 to 31-May-2030	992,511
01-June-2030 to 31-May-2031	744,001
01-June-2031 to 31-May-2032	523,460
01-June-2032 to 31-May-2033	327,752
Total estimated ERs	7,902,040
Total number of crediting years	10
Average annual ERs	790,204

Location: Faridabad, Haryana, India

Date: 15-April-2024

Authorized signatory,



Kaushal Goyal
Managing Director,
KBS Certification Services. Ltd.

APPENDIX I: REFERENCES

No.	Document
1	/1.1/ Initial VCS- PD Version 01, dated 30-April-2022
1a	/1.2/ Final VCS-DD Version 05, dated 12 June-2023
2	VMR0006- Methodology for Installation of High Efficiency Firewood Cookstoves, version-1.1 dated 22-July-2021
2a	Tool for demonstration and assessment of additionality” Version-7.0.0 EB 70 Annex-08
2b	Tool 30: Calculation of the fraction of non-renewable biomass version 03.
2c	CDM methodology AMS-II.G, version 12
2d	Standard for sampling and surveys for CDM project activities and programme of activities, version 9.0
3	Spread sheets for Emission Reduction Calculations
3a	Spread sheets for fNRB Calculations V3 dt 29/3/2024
4	Declaration for not availing other forms of environmental credit for the same crediting period under consideration, Not availing public funding (dated 29-November-2022)
5	Stakeholder consultation records
6	Sample beneficiary agreement: Tripartite agreement between PP (M/s Offsetfarm Pte Ltd)
7	Technical specifications of the ICS (Greenway Jumbo stove) as per manufacturer specification
8	VCS Program Guide, Version 4.3
9	VCS Standard, Version 4.4
10	VCS_Validation_Verification_Manual_v3.2
11	FNRB spread sheet
12	Energy Conservation Act 2001 and it's amendments
13	Efficiency (38%) test report of ICS as per water boiling test according to ISO 19867 test Sequence protocol and certified by third party (KIRDI Stove Testing Centre)
14	Publically available source for baseline scenario
15	Various research as Indicated footnotes.
16	Communication agreement of PP with VERRA
17	Project cost – Invoice sent by the manufacturer to one its customer.
18.	Validation report for GS Project
19	UN Energy data
20	Article Published in Energy sector Management Assistance Program dated 29-March-2017. https://esmap.org/node/57862
21	Distribution and Data sharing agreement between PP and distributor
22	India State of Forest Report 2011 (Table 7.4.6) - http://wipl.net.in/fsi_report_20011/final_2011.pdf

APPENDIX 2: COMPETENCE OF TEAM MEMBERS AND TECHNICAL REVIEWERS

Personnel Name:		Tushar Eknath Chaudhari	
Qualified to work as:			
Team Leader	☒	Technical Expert	☒
Validator/Verifier	☒	Financial Expert	☒
Technical Reviewer	☒	Local Expert (India)	☒
Area(s) of Technical Expertise			
Sectoral Scope	Technical Area		
Energy Industries (renewable/non-renewable sources)	TA 1.1: Thermal energy generation from fossil fuels and biomass including thermal electricity from solar		
Energy industries (renewable/non-renewable sources)	TA 1.2: Energy generation from renewable energy sources		
Energy demand	TA 3.1. Energy Demand		
Waste Handling and Disposal	TA 13.1 Waste Handling and Disposal		
Approved by	Manager Competency & Training		
Approval date:	02/09/2020		

Personnel Name:		Sudheendra K	
Qualified to work as:			
Team Leader	☐	Technical Expert	☒
Validator/Verifier	☐	Financial Expert	☐
Technical Reviewer	☒	Local Expert	☐
Area(s) of Technical Expertise			
Sectoral Scope	Technical Area		
Energy industries (renewable/non-renewable sources)	TA 1.1: Thermal energy generation from fossil fuels and biomass including thermal electricity from solar		
	TA 1.2: Energy generation from renewable energy sources		
Energy distribution	TA 2.1: Energy distribution		
Energy demand	TA 3.1. Energy Demand		
Approved By	Shikha Sharma		
Approval date:	18/06/2021		

Personnel Name		SAUVIK BANERJEE			
Schemes	☒ CDM	☒ GCC	☒ GS	☒ VCS	☐ Other GHG Schemes (mention here)
Qualified to work as					
**Team Leader	☒	Technical Expert		☒	
Validator/Verifier	☒	Financial Expert		☐	
Technical Reviewer	☐	Local Expert (India and Dubai)		☒	
Area(s) of Technical Expertise					
Sectoral Scope			Technical Area		

SS 1: Energy industries (renewable/non-renewable sources)	TA 1.1. Thermal energy generation
SS 2: Energy distribution	TA 1.2. Renewables
SS 3: Energy demand	TA 2.1. Energy distribution
	TA 3.1. Energy demand
Approved by: Dr. Indu Dwivedi Manager Competence & Training	Approval date: 18-04-2023

Personnel Name:		Shilpa Swarnim	
Qualified to work as:			
Team Leader	☒	Technical Expert	☒
Validator/Verifier	☒	Financial Expert	☐
Technical Reviewer	☐	Local Expert	☐
Area(s) of Technical Expertise			
Sectoral Scope		Technical Area	
Energy industries (renewable/non-renewable sources)		TA 1.2: Energy generation from renewable energy sources	
Afforestation and Reforestation		TA 14.1 Afforestation and Reforestation	
Approved by		Manager C&T	
Approval date:		06/09/2021	

Personnel Name		Mr. Ashish Yadav			
Schemes	☒ CDM	☒ GCC	☒ GS	☒ VCS	☐ Other GHG Schemes (mention here)
Qualified to work as					
Team Leader			☒	Technical Expert (1.2 and 3.1)	☒
Validator/Verifier			☒	Financial Expert	☐
Technical Reviewer			☐	Local Expert (India)	☒
Area(s) of Technical Expertise					
Sectoral Scope			Technical Area		
SS: 1 Energy Industries (Renewable/non-renewable)			TA 1.2. Renewables		
SS: 3 Energy demand			TA 3.1 Energy demand		
Approved by (Manager Quality)			Mr. Praveen N URS		
Approval date			15-03-2024		

Personnel Name		Mr. Praveen N Urs			
Schemes	☒ CDM	☒ GCC	☐ GS	☒ VCS	☐ Other GHG Schemes (mention here)
Qualified to work as					
Team Leader			☒	Technical Expert	☒
Validator/Verifier			☒	Financial Expert	☐
Technical Reviewer			☒	Local Expert (India)	☒
Area(s) of Technical Expertise					
Sectoral Scope			Technical Area		
SS 1: Energy industries (renewable/non-renewable sources)			TA 1.2. Renewables		
SS 13: Waste handling and disposal			TA 13.1. Solid waste and wastewater		
Approved by (Manager Competence)			Dr. Rajesh Monga		
Approval date			06-09-2023		

Personnel Name:		Tom Varghese	
Qualified to work as:			
Team Leader	☐	Technical Expert	☒
Validator/Verifier	☐	Financial Expert	☐
Technical Reviewer	☐	Local Expert	☒
Area(s) of Technical Expertise			
Sectoral Scope		Technical Area	
SS 1: Energy industries (renewable/non-renewable sources)		TA 1.2. Renewables	
SS 3: Energy demand		TA 3.1. Energy demand	
Approved by (Manager C & T)		Ritu Arora Sehgal	
Approval date:		14/06/2023	

APPENDIX 3: FINDINGS

Table 1.CL from this validation

CL ID	01	Section no.	3.1	Date: 14/12/2022
Description of CL				
1. The estimated ER values mentioned in section 1.1 of VCS PD were inconsistent provided ex-ante ER calculation sheet. 2. In section 1.4 of VCS PD for eligibility criteria relating to “Conditions to avoid double counting”, unique identification of end user locations such as Geo-coordinates are not included. 3. In the section 1.9 of VCS PD, the mentioned project crediting period is incorrect, considering defined fixed crediting period of 10 years.				
Project participant response		Date: 30/12/2022		
1. The ER sheet is now updated with respect to chosen baseline option as per the equation (4) of methodology, the ex-ante ERs are updated accordingly in various applicable section. Refer the revised VCS PD and ER sheet. 2. Geo coordinates are being added as one of the item in the database, refer the revised VCS PD. 3. Crediting period is updated in the revised VCS PD based on the validation timeline, no stove has been distributed yet.				
Documentation provided by project participant				
Revised VCS PD				
DOE assessment			Date: 20/01/2023	
1. Estimated VERs are revised in the updated version of submitted VCS PD, the ERs are now consistent with the revised ER sheet submitted together with the VCS PD. 2. The geo coordinates are of the database format as per the revised VCS PD. The revisions found adequate by the validation team, 3. Crediting period date has been updated and a futuristic expected date is mentioned in the revised VCS PD.				
Thus, CL 01 is now closed.				

CL ID	02	Section no.	3.1	Date: 14/12/2022
Description of CL				
As per the sample agreement submitted for waiver of Carbon rights, the parties to the agreements are mentioned as Beneficiary and SDG ventures but the Project proponent for this grouped project is Offsetfarm Pte Ltd, please clarify.				
Project participant response		30/12/2022		
The project participant is only SDG ventures, Offsetfarm was mentioned erroneously, this may be reviewed from the published PD.				
Documentation provided by project participant				
N/A				
DOE assessment			Date: 20/01/2023	
The clarification has been accepted and it has been clarified that Offset Farm was mentioned erroneously. Thus, CL 02 is now closed.				

CL ID	03	Section no.	3.3.5	Date: 14/12/2022
Description of CL				

In section 3.5 of VCS PD states that additionality of the project is demonstrated by activity method as the project is not getting any finance other than the carbon revenue. However, from the LSC meeting records, the validation team noted that the users will pay Rupee of 500 for each stove bought by them. Please clarify the appropriateness of using activity method and project method for demonstrating additionality.

Project participant response 30/12/2022

The additionality approach has been revised and the financial barrier/investment analysis is included therein. Refer the revised VCS PD. The supporting documents regarding the chosen investment analysis are also furnished to VVB.

Documentation provided by project participant

Revised VCS PD, Evidence of investment analysis.

DOE assessment Date: 20/01/2023

The additionality is now demonstrated as per the CDM Tool, the necessary evidence of project cost are submitted to VVB. The common practice is also part of updated VCS PD. Finding is closed based on the additionality demonstration. The detailed assessment on the appropriateness of additionality shall be part of validation report.

Thus, CL 03 is now closed.

CL ID	04	Section no.	3.1; 3.3.8	Date: 14/12/2022
Description of CL				
The evidence for “fNRB” is awaited, the same shall be furnished to VVB for assessment.				
Project participant response		30/12/2022		
Please see attached fnrb sheet, the fnrb is calculated by using the valid version 03 of tool 30. All sources/assumption inter alia are part of the sheet.				
Documentation provided by project participant				
fnrb sheet,				
DOE assessment				Date: 30/12/2022
The fnrb spreadsheet has been submitted along with the response. The spreadsheet is prepared on the valid version 03 of the Tool 30. The detailed assessment on the appropriateness of demonstrated fnrb calculation as per tool 30 shall be part of main section of validation report.				
Thus, CL 04 is now closed.				

CL ID	05	Section no.	3.3.6; 3.3.8	Date: 14/12/2022
Description of CL				
In section 5.1 of the VCS PD, for the parameter “The quantity of firewood consumed in absence of project activity (<i>B_{old}</i>)”, the ex-ante determination however the PP clarified during remote assessment for ex-post project fuel survey. The discrepancy in approach (i.e. baseline survey or expost new survey shall be clarified.				
Project participant response		30/12/2022		
The appropriate revisions are made in the updated VCS PD, <i>B_{ynew, survey}</i> is mentioned as an monitored parameter rather than <i>B_{old}</i> .				
Documentation provided by project participant				
Revised VCS PD,				
DOE assessment			Date: 20/01/2023	
PP has clarified that they are now updating the baseline fuel consumption approach by opting the <i>B_{y.newsurvey}</i> . Thus, CL 05 is now closed.				

CL ID	06	Section no.	3.3.6; 3.3.8	Date: 14/12/2022
Description of CL				

Provide evidence from the manufacturer for the following parameter: “Efficiency of project stove at the start of the project activity”.	
1. Efficiency test report for eligible ICS stoves and 2. Evidence for lifespan of ICS 3. Discount factor (declaration from manufacturer on expected loss in efficiency)	
Project participant response	30/12/2022
1. Efficiency test results are already furnished and attached again herewith. 2. Lifetime certificate from manufacturer is attached. 3. Discount is as per the methodology and can from verified from the demonstration as part of ER sheet.	
Documentation provided by project participant	
Efficiency Test, Lifetime Certificate, ER spreadsheet	
DOE assessment	Date: 20/01/2023
1. The Efficiency test report has been furnished to VVB and it has been validated that the test carried out by the third party are in compliance with the methodology requirements. 2. Manufacturer letter supporting the lifetime has been submitted and it has been indicated that the stoves have 7 years of lifetime. The letter is in compliance with the requirement of VCS methodology. 3. Discount is applied as per the equation mentioned in the VMR0006, the application of the loss in efficiency has been incorporated as part of ER spreadsheet. The discount was validated correct by the validation team.	
Thus, CL 06 is now closed.	

CL ID	07	Section no.	3.3.8	Date: 14/12/2022
Description of CL				
Following clarifications are raised regarding sampling approach described in section 5.3 of VCS PD.				
a. In section 5.3 of VCS PD, sampling method for the parameter “$B_{y=1,new,i,j,survey}$”. Please clarify reference to this parameter, as Equation 4 of the methodology is not used for ER calculations. b. For sample size calculations, please clarify if the applied level of Confidence/precision values are consistent with the requirements stated in the “Sampling and surveys for CDM project activities and programme of activities, version 9.0”.				
Project participant response				30/12/2022
a. Adequate revisions are made in the revised VCS PD, we acknowledge that the published PD has discrepancy with the chosen baseline approach/formula and the sampling methods. Now the sampling methodology is made consistent with the chosen formula for B_y, saving. b. The adequate revisions are made in the sampling section of updated revised VCS PD.				
Documentation provided by project participant				
Revised VCS PD				
DOE assessment				Date: 20/01/2023
a. The approach has been revised now and the “$B_{y=1,new,i,j,survey}$” method is part of ER calculation. b. Sampling section has been revised and found adequate by the validation team, the detailed assessment will be part of main section of validation report.				
Thus, CL 07 is now closed.				

Table 2.CAR from this validation

CAR ID	01	Section no.	3.2.4	Date: 14/12/2022
Description of CAR				
a. VCS standard version 4.1 is referred in VCS PD, which is not the latest version of VCS standard. b. Section 2.4 of the VCS PD is not updated.				
Project participant response				Date: 30/12/2022

a. Valid version of VCS standard is updated in the sections wherein the obsolete version was mentioned.
b. Section 2.4 of the VCS PD is updated now.
Documentation provided by project participant
Revised VCS PD
DOE assessment Date: 20/01/2023
a. PP has referred VCS standard version 4.3 however VVB observed that version 4.4 of the VCS standard also released but the validity for the VCS Standard version 03 is still valid. Thus either can be applied.
b. Section 2.4 is updated with respect to the public comments, VVB assessed the information correct by reviewing the listing page and found no comments during the 30 days listing period for the project.
Thus, CAR 01 is now closed.

CAR ID	02	Section no.	3.1	Date: 14/12/2022
Description of CAR				
Section 1.4: The following Eligibility criteria not discussed in line with the VCS Standard requirements:				
1. Meet the applicability conditions set out in the methodology applied to the project.				
2. Are subject to the baseline scenario determined in the project description for the specified project activity and geographic area.				
3. Have a start date that is the same as or later than the grouped project start date.				
Hence details on the above additional Eligibility criteria may be provided in the VCS-PD.				
Project participant response		Date: 30/12/2022		
Section 1.4 under eligibility criteria have been updated by the PP, refer the revised VCS PD.				
Documentation provided by project participant				
Revised VCS PD				
DOE assessment				Date: 20/01/2023
1. The eligibility criteria are updated with respect to the applicability;				
2. The eligibility criteria are updated with respect to the baseline;				
3. The eligibility criteria are updated with respect to the start date;				
All revisions found in compliance with the VCS standard version 4.4, Thus, CAR 02 is now closed.				

Table 3.FAR from this validation

FAR ID	FAR 01	Section no.	2.5.1	Date: 14/12/2022
Description of FAR				
Since, the project is yet to start the distribution, the verification entity (VVB) to check and ensure the start date, Ownership rights, signed beneficiary agreements, Sales price of ICS, unique identification number followed for the distributed ICS and is traceable.				
Project participant response				Date: 30/12/2022
Since this is a FAR, the compliance shall be adhered by PP during the verification.				
Documentation provided by project participant				
DOE assessment				Date: DD/MM/YYYY