



Verified Carbon Standard

DELAGUA CLEAN COOKING GROUPED PROJECT

Earthood

Document Prepared by Earthood Services Private Limited

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Summary:

Provide a brief summary of the following:

- A description of the project

The project activity “DelAgua Clean Cooking Grouped Project” involves distribution of fuel efficient improved cookstoves (ICS) to local communities in Rwanda. The project is a voluntary initiative as host country laws does not mandate the distribution of ICS to the local communities. The project proponent is DelAgua Health Rwanda (Voluntary) Limited (“DelAgua”) who is using carbon finance to support local partners engaged in different activities like production, distribution, and maintenance of various product technologies. This project includes technologies, designed to reduce GHG emission by supplying high efficiency ICS to end-users and promoting public health to tackle several health challenges caused due to using less efficient stoves. This will also reduce the consumption of non-renewable biomass resources or fossil fuel for cooking purposes. The project will also improve the indoor air quality and health of women and children as a co-benefit.

- A description of the validation and verification

Earthood Services Private Limited (Earthood) has performed a joint validation & verification of the project activity “DelAgua Clean Cooking Grouped Project” By DelAgua Health Rwanda (Voluntary) Limited” in Rwanda. This assignment was performed on the basis of rules and requirements defined by VCS for the project activities.

The review of the joint PD & MR, supporting documentation and subsequent follow-up actions (onsite visit and interviews with end-users) have provided Earthood with sufficient evidence to determine the fulfilment of stated criteria. The project correctly applies the approved baseline and monitoring methodology VMR0006 Methodology for Installation of High Efficiency Firewood Cookstoves, version 1.1.

The project results in reductions of CO₂e emissions that are real, measurable and give long-term benefits to the mitigation of climate change. It is demonstrated that the project is not a likely baseline scenario and the emission reductions attributable to the project are, hence, additional to any that would occur in the absence of the proposed VCS project activity.

The average annual and total GHG emission reduction from the project is expected to be 344,074 and 2,408,517 tCO₂e, respectively, over the first 7-year crediting period. The monitoring report identified for the first verification period is from 01/01/2019 to 14/09/2021, and the achieved emission reductions during this monitoring period is 2,408,517 tCO₂e.

- The purpose and scope of validation and verification

The scope of the services provided by the Earthood Services Private Limited is to perform joint validation & verification of the project activity “DelAgua Clean Cooking Grouped Project”. The scope is to assess the claims and assumptions made in joint project description & monitoring report /1/ against the VCS criteria, UNFCCC criteria, including but not limited to the VCS Standard /3/, VCS Validation and Verification Manual /4/, CDM PS for PA /5/, CDM VVS for PA/6/ and other relevant rules and requirements established for Verra.

- The method and criteria used for validation and verification

This assignment is an independent and objective review for determination of the monitored reductions in GHG emissions. The joint validation & verification includes the implementation and operation of the project as reported in the project description & monitoring report /1/. The validation & verification process is undertaken by VVB that involves the following:

- The desk review of documents and evidence submitted by the project participant in context of the VCS criteria along with reference CDM rules and guidelines issued by CDM EB,
 - Undertaking physical site visit, interview, or interactions with the representative of the project participant,
 - Reporting audit findings with respect to clarification and non-conformities and the closure of the findings as appropriate.
 - Preparing a draft joint validation & verification report of VCS program complying with the VCS requirements
 - Technical review of the draft validation & verification opinion along with other documents as appropriate by an independent competent technical review team for finalization of the joint validation & verification opinion (this report)
 - An independent technical review team reviews this report made by the VVB. After the final report is accepted by the Technical Reviewer it is then approved by Earthood Services Private Limited which is processed further according to the VCS and CDM procedures.
- The number of findings raised during validation and verification

During joint validation and verification of the project, a total of 02 CLs and 10 CARs were raised. These have been successfully resolved as provided in Appendix II of this report.

- Any uncertainties associated with the validation and verification

VVB has undertaken an elaborate audit trail for validation of assumptions and claims contained in final PD & MR Version 3.0 dated 12/01/2023. Each detail has been checked during site visit and document review which is not only confined to information provided by PP but also by undertaking an independent evaluation of relevant publicly available information by making use of technical expertise of the assessment team. Thus, there are no evident uncertainties associated with the validation.

- Summary of the validation and verification conclusions

The review of the project description & monitoring report, supporting documentation and subsequent follow up actions have provided ESPL with sufficient evidence to determine the fulfilment of stated criteria. Earthood is of the opinion that the project activity “DeLaqua Clean Cooking Grouped Project” (VCS ID: 2749) meets all the VCS requirements and has correctly applied the VCS approved methodology VMR0006 Methodology for Installation of High Efficiency Firewood Cookstoves, version 1.1 /7/. The GHG emission reductions were calculated correctly based on the approved methodology.

Earthood Services Private Limited can certify that the emission reductions achieved in the project description & monitoring report for the monitoring period 01/01/2019 – 14/09/2021 by VCS project activity “DeLaqua Clean Cooking Grouped Project” amount to 2,408,517 tCO₂e. Therefore, this is being submitted for request for issuance, as per VCS and UNFCCC procedures.

In summary, it is Earthood’s opinion that the project activity “DeLaqua Clean Cooking Grouped Project” as described in the PD & MR Version 3.0 dated 12/01/2023 meets all the relevant baseline and monitoring methodology. The monitoring plan adequately provides for the ex-post monitoring of the project’s emission reductions. The monitoring arrangements described in the monitoring plan are feasible within the project design and it is Earthood’s opinion that the DeLaqua Health Rwanda (Voluntary) Limited shall be able to implement the monitoring plan and requirements of VCS standard.

Therefore, Earthood requests the registration of the project as a VCS project activity and issuance of VCUs under the first monitoring period.

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1 INTRODUCTION

1.1 Objective

DelAgua Health Rwanda (Voluntary) Limited (PP) has contracted Earthood Services Private Limited (VVB) for joint validation & verification services for the VCS project “DelAgua Clean Cooking Grouped Project” (project ID 2749) located in Rwanda to jointly carry out validation and verification of the project against the requirements of VCS Program.

The objective of the validation assessment is to determine the

Project conformity with the VCS rules.

Project conformity with the applied methodology, including the procedure for the demonstration of additionality specified in the methodology; and

Likelihood that methods and procedures set out in the project description will generate verifiable GHG data and information when implemented.

In order to fulfil above objectives, the VVB assigned the task of assessment to validation team that is collectively qualified as per Annex A.2.3.3 of ISO 14064-3 and other internal requirements.

The validation/ verification is an independent assessment of the project by a validation/verification body that determines whether the project complies with the VCS rules.

1.2 Scope and Criteria

The joint validation and verification scope of this assignment is defined as an independent and objective review of the VCS Project Description & Monitoring Report (VCS PD & MR) and supporting annexures, which is reviewed by the assessment team against the relevant criteria and decisions by the VCS Board, including but not limited to, the approved baseline and monitoring methodology, applicable tools, standards (CDM and VCS) and guidance. The assessment team has, based on the recommendations prescribed in the latest version of VCS Validation and Verification Manual, employed a risk-based approach, focusing on the identification of significant risks for project implementation and the generation of VCUs.

The scope of this assignment is to:

- Jointly conduct validation and verification in accordance with Earthood’s own QMS that is based on the VCS VVM along with the guidance provided by the VCS board to determine if the project meets all applicable VCS requirements, including those specified in the VCS standard, relevant methodology, tools, and guidelines and processing the same with VCS Program Guide.

- Asses the accuracy, conservativeness, relevance, completeness, consistency, and transparency of the information provided by the project proponents.
- Determine whether information provided by the project proponents is reliable and credible.
- Present information in the form of joint validation & verification report in a factual, neutral, coherent manner and referencing the sources and assumptions, other forms of validation mean employed.
- Report the findings and conclusions in an objective manner and conduct all validation & verification in accordance with VCS rules and procedures.
- Apply consistent validation and verification criteria in providing expert judgments to the requirements of applicable approved methodology, tools, and also cross check the same.
- Safeguard the confidentiality of all information obtained during validation and verification; and
- Adhere to the principles of independence, ethical conduct, fair presentation, and due professional care in assessment process.

1.3 Level of Assurance.

☐ Limited level of assurance

☒ Reasonable level of assurance

A draft joint validation and verification report that is prepared by assessment team is reviewed by an independent technical review team (one or more members) to confirm if the internal procedures established and implemented by Earthood are duly complied with and such opinion/conclusion is reached in an objective manner that complies with the applicable VCS requirements as appropriate. The technical review team is collectively required to possess the technical expertise of all the technical area/sectoral scope the project activity relates to. All team members of technical review team are independent of the validation and verification team. The report approved by Technical Manager is endorsed by Managing Director, who is overall responsible to ensure quality, before final release. The further details of applicable procedures and responsibilities about Earthood Quality Management System (QMS) are available on its website (www.earthood.in).

Earthood's validation approach is based on the understanding of the risks associated with reporting of GHG emission data and the controls in place to mitigate these. Earthood planned and performed the validation by obtaining evidence and other information and explanations that Earthood considers necessary to give reasonable level of assurance that reported estimated GHG emission reductions are fairly stated.

In our opinion the estimated and actual GHG emissions reductions were calculated correctly on the basis of the approved baseline and monitoring methodology VMRO006 Methodology for Installation of High Efficiency Firewood Cookstoves, version 1.1 /7/.

The assessment result has a reasonable level of assurance in validation & verification that GHG assertions are free of material errors, omissions, and misrepresentations. The documents and evidence reviewed are included under Appendix I of this report.

1.4 Summary Description of the Project

Summary description of grouped project activity has been illustrated in section 1.1 of Joint PD &MR appropriately. As per the given details in PD, information was assessed on-site and found to be consistent. The project activity “DelAgua Clean Cooking Grouped Project” involves distribution of fuel efficient improved cookstoves (ICS) to local communities in Rwanda. The project is a voluntary initiative as host country laws do not mandate the distribution of ICS to the local communities. The project proponent is DelAgua Health Rwanda (Voluntary) Limited (“DelAgua”) who is using carbon finance to support local partners engaged in different activities like production, distribution, and maintenance of various product technologies. This project includes technologies, designed to reduce GHG emission by supplying high efficiency ICS to end-users and promoting public health to tackle several health challenges caused due to using less efficient stoves.

The scenario is well described and consistent with the data that was verified during the site visit. The average annual and total GHG emission reduction from the project is expected to be 344,074 tCO₂e and 2,408,517 tCO₂e, respectively, over the first 7-year crediting period. The monitoring report identified for the first verification period is from 01/01/2019 to 14/09/2021, and the achieved emission reductions during this monitoring period is 2,408,517 tCO₂e.

2 VALIDATION AND VERIFICATION PROCESS

2.1 Method and Criteria

The validation and verification of the project consists of following steps:

Desk review

- Review of data and information provided in the VCS PD/1/ & MR/1/ and corresponding annexures
- Cross check the information with the sources without limitations to the information provided by the project proponents

Follow up actions

- On-site inspection to physically inspect the project design including, but not limited to, monitoring mechanism
- Interview with relevant personnel and end-users responsible for information given in the VCS PD &MR

Reporting of findings

- Resolution of findings
- Draft joint validation & verification report

Independent technical review

The project documentation is reviewed by internal technical reviewer in order to independently confirm whether the applicable GHG program requirements were objectively met or not, in addition to whether internal procedures were followed while arriving at the validation and verification opinion. The technical reviewer may accept or reject the validation and verification opinion prepared by the assessment team and gives the reasons. The resolved findings may be opened at this stage or new findings may be identified that are required to be addressed by assessment team and/or project proponents, as appropriate. The technical reviewer is the decision maker on behalf of the Earthood Services Private Limited. A positive opinion is issued if all the findings have been satisfactorily resolved and in all other cases a negative opinion is issued unless the contract is terminated by either party before reaching the final opinion.

Earthood keeps all documents and records in a secure and retrievable manner for at least two years after the end of the project crediting period.

Sampling plan for validation of the project:

The Sampling and surveys for CDM project activities and programmes of activities (Version 9.0)/14/ states under paragraph 28 that “When the project participants or the coordinating/managing entity have applied a sampling approach, the VVB may apply acceptance sampling as described in the steps indicated in paragraphs 29–38 below as part of validation/verification activities”.

Since the PP has determined the value of ex-ante parameters B_{old} , baseline stove type, fuel type through sampling for baseline end-users, the validation team conducted acceptance sampling in line with paragraph 30 and 31 of the sampling standard version 9.0/14/.

As per para 39 of the sampling standard version 9.0/14/, “A VVB may select a different sample size than the one indicated in paragraph 32 above either by choosing a different value for the consumer risk and producer risk (e.g., 20 per cent for the consumer risk) when applying acceptance sampling or by using another approach, if any of the following conditions apply:

- (a) The estimated volume of annual GHG emission reductions of the project activity or the PoA being verified is equal to or less than 100,000 tCO₂e.

(b) The security conditions in the project region prevents inspection of many samples (eg. conflict zones); or

(c) The VCS grouped project activity is located in a least developed country or a host party with 10 or fewer registered CDM project activities at the end of the monitoring period being verified.”

The grouped project is located in Rwanda, which is a Least Developed Country (LDC) (<https://unfccc.int/topics/resilience/workstreams/national-adaptation-programmes-of-action/ldc-country-information>). Thus, the validation team can choose a different sample size than one indicated in para 32 of the sampling standard/14/.

The validation team selected random sample of PP’s monitoring sampled records (parameter-B_{old}) to check the acceptability (or otherwise) of the data for each such record with PP’s sample records and determined if the PP’s sample records meet the requirements.

Sample Size:

AQL	UQL	Producer Risk	Consumer Risk	Sample Size; Min	Acceptance No.
0.5%	20%	10%	20%	8	0

The Validation team covered a total of 8 samples to confirm baseline KPT results and observed a few typographical errors related to erroneous reporting of data from the baseline survey results presented to VVB. No discrepancies were observed.

Sampling plan for verification of the project:

The CDM Standard – Sampling and surveys for CDM project activities and programme of activities (Version 9.0)/14/ states under paragraph 28 that “When the project participants or the coordinating/managing entity have applied a sampling approach, the VVB may apply acceptance sampling as described in the steps indicated in paragraphs 29–38 below as part of validation/verification activities”.

Since the PP has monitored parameters ($N_{y,i,j}$, η_{old} , μ_y) through surveys, verification team conducted acceptance sampling in line with paragraph 30 and 31 of the sampling standard version 9.0.

For the purpose of verification:

The verification team selected the sample size as 18 households with 2 households extra as backup for the purpose of on-site inspection to check the acceptability of PP’s sampling results. The reason behind selecting 18 as the preferred sample size for each PAI is that the number of ICS units distributed under PAI-1 and PAI-2 is very high, and the survey result for monitored parameters presented includes a large number of samples, which are spread across various districts within the geographical boundaries of the host country. Moreover, most of the stove units under verification were old (nearing their end of useful life) and had a probability of discrepant records (non-conformities). Another reason to select 18 samples for PAI-1 and PAI-2 was that the VVB sampling was being conducted beyond the end of useful life for the PAI-1 samples. This may result in possible discrepancy while reviewing the samples on-site after the 7-year life of the project ICS, specifically for PAI-1 samples. The selected sample size of 18 under

acceptance sampling reasonably accounted for any possible discrepancy that may have been identified by VVB during the on-site visit.

Sample Size:

AQL	UQL	Producer Risk	Consumer Risk	Sample Size; Min	Acceptance No.
1.0%	20%	10%	10%	18	1

PP had conducted the sampling for two project activity instances (PAI 1 and PAI 2) under the grouped project. 18 samples within each PAI were checked. The verification team covered a total of 36 samples and observed a few typographical errors related to erroneous reporting of data from the survey results presented to VVB. No discrepancies were observed by the verification team.

2.2 Document Review

This joint validation & verification of the project is performed primarily as a document review of the VCS Joint PD & MR /01/ and associated documents as stated in detail in appendix I of this document. The assessment is performed by a validation & verification team using a protocol. The cross checks between information provided in the VCS Joint PD & MR and information from sources other than those used, if available, the team's sectoral or local expertise and, if necessary, independent background investigations.

The joint validation and verification are performed primarily as a document review of the documents submitted at various stages of assessments. The review is performed by assessment team using dedicated protocols. The assessment team cross checks the information provided in the documents (Joint Project Description & Monitoring Report/01/) and information from sources other than those used, if available, and also conducts independent background investigations. Earthood conducted a desk review as under;

- A review of the data and information presented to verify their completeness.
- A review of the monitoring plan, the monitoring methodology including applicable tool(s) and, where applicable, the applied standardized baseline, paying particular attention to the frequency of measurements, the quality of metering equipment including calibration requirements, and the quality assurance and quality control procedures
- An evaluation of data management and the quality assurance and quality control system in the context of their influence on the generation and reporting of emission reductions

2.3 Interviews

The VVB conducted an on-site visit from 18/04/2022 to 22/04/2022. The on-site visit was conducted as a part of validating the project and also verifying the monitoring procedures followed in the project. The following points were discussed as the part of the interviews:

- a. Introduction, scope and objective of work, roles and responsibilities of audit team, resources required, and timetable of the onsite audit including venue for closing meeting and any concerns from PP.
- b. All the details about the project activity mentioned in the Joint PD-MR was cross checked by discussion with the PP.
- c. Compliance of monitoring procedures followed at project site with registered PDD and monitoring methodology.
- d. Conducting the Site visit by interviewing the end-users.
- e. And finally, submission of the audit findings to the client and agreement on the issues raised and agreement on timelines.

JADF participants were interviewed on 28/06/2022 and 30/06/2022 as the last JADF meeting happened after the physical site visit.

Name	Affiliation	Date	Assessment team
Ajay Dixit	Carbon Operational Manager (Delagua)	18/04/2022 – 22/04/2022	Deepika Mahala, Shifali Guleria and Olivier Uwimana
Monica Keza	Country Director	18/04/2022 – 22/04/2022	Deepika Mahala, Shifali Guleria and Olivier Uwimana
Robert Masinde	Supply Chain Manager	18/04/2022 – 22/04/2022	Deepika Mahala, Shifali Guleria and Olivier Uwimana
Jean Pierre Sibomana	Operation Manager	18/04/2022 – 22/04/2022	Deepika Mahala, Shifali Guleria and Olivier Uwimana
Bruno Nyirimana	Program Coordinator	18/04/2022 – 22/04/2022	Deepika Mahala, Shifali Guleria and Olivier Uwimana
Claver Karake	JADF participant	28/06/2022	Deepika Mahala, Vishnu Panicker
Epimaque Ntirenganya	JADF participant	30/06/2022	Deepika Mahala, Vishnu Panicker

2.4 Site Inspections

The VVB carried out an on-site visit from 18/04/2022 to 22/04/2022 and physically inspected the project technical design and implementation as specified in the VCS PD & MR /01/.

The site visit was conducted to validate the accuracy and completeness of the project description. The validation and verification team members who visited the site collectively had the competence for the relevant technical area to which project relates. The views obtained during site observation were considered while concluding the validation and verification opinion.

Name	Affiliation	Date	Assessment team
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Neretsabandi Marie Claire	Baseline KPT sample	18/04/2022-22/04/2022	Deepika Mahala, Shifali Guleria and Olivier Uwimana
Habimana alphonse	Baseline KPT sample	18/04/2022-22/04/2022	Deepika Mahala, Shifali Guleria and Olivier Uwimana
Shirimpumu esperance	Baseline KPT sample	18/04/2022-22/04/2022	Deepika Mahala, Shifali Guleria and Olivier Uwimana
Uwimana venancie	Baseline KPT sample	18/04/2022-22/04/2022	Deepika Mahala, Shifali Guleria and Olivier Uwimana
Dusabe jacqueline	Baseline KPT sample	18/04/2022-22/04/2022	Deepika Mahala, Shifali Guleria and Olivier Uwimana
Mukankubana odette	Baseline KPT sample	18/04/2022-22/04/2022	Deepika Mahala, Shifali Guleria and Olivier Uwimana
Innocent	Baseline KPT sample	18/04/2022-22/04/2022	Deepika Mahala, Shifali Guleria and Olivier Uwimana
Umwari Cyentia	Baseline KPT sample	18/04/2022-22/04/2022	Deepika Mahala, Shifali Guleria and Olivier Uwimana

Name	Affiliation	Date	Assessment team
Florence Nsabuwigiteka	PAI-1 Users	18/04/2022-22/04/2022	Deepika Mahala, Shifali Guleria and Olivier Uwimana
Tombora JD	PAI-1 Users	18/04/2022-22/04/2022	Deepika Mahala, Shifali Guleria and Olivier Uwimana
Viateur Baziyaka	PAI-1 Users	18/04/2022-22/04/2022	Deepika Mahala, Shifali Guleria and Olivier Uwimana
Consolatte Nyiramfabakuze	PAI-1 Users	18/04/2022-22/04/2022	Deepika Mahala, Shifali Guleria and Olivier Uwimana
Agnes Banteziminsi	PAI-1 Users	18/04/2022-22/04/2022	Deepika Mahala, Shifali Guleria and Olivier Uwimana
Agelique Nyirakanyana	PAI-1 Users	18/04/2022-22/04/2022	Deepika Mahala, Shifali Guleria and Olivier Uwimana
Manirakiza	PAI-1 Users	18/04/2022-22/04/2022	Deepika Mahala, Shifali Guleria and Olivier Uwimana
Bizizmana David	PAI-1 Users	18/04/2022-22/04/2022	Deepika Mahala, Shifali Guleria and Olivier Uwimana
Hategekimana Donatti	PAI-1 Users	18/04/2022-22/04/2022	Deepika Mahala, Shifali Guleria and Olivier Uwimana
Nyirabwimana Sarah	PAI-1 Users	18/04/2022-22/04/2022	Deepika Mahala, Shifali Guleria and Olivier Uwimana
Kariste Mushirampuhwe	PAI-1 Users	18/04/2022-22/04/2022	Deepika Mahala, Shifali Guleria and Olivier Uwimana

Levukati Nsengumuremyi	PAI-1 Users	18/04/2022-22/04/2022	Deepika Mahala, Shifali Guleria and Olivier Uwimana
NZABAMWITA Godiberita	PAI-1 Users	18/04/2022-22/04/2022	Deepika Mahala, Shifali Guleria and Olivier Uwimana
Damaseni Bahati	PAI-1 Users	18/04/2022-22/04/2022	Deepika Mahala, Shifali Guleria and Olivier Uwimana
Mukagatare Eugenie	PAI-1 Users	18/04/2022-22/04/2022	Deepika Mahala, Shifali Guleria and Olivier Uwimana
Etienne Kubwimana	PAI-1 Users	18/04/2022-22/04/2022	Deepika Mahala, Shifali Guleria and Olivier Uwimana
Aloyizi Kabusagara	PAI-1 Users	18/04/2022-22/04/2022	Deepika Mahala, Shifali Guleria and Olivier Uwimana
Nyirahabineza Venantie	PAI-1 Users	18/04/2022-22/04/2022	Deepika Mahala, Shifali Guleria and Olivier Uwimana

Name	Affiliation	Date	Assessment team
Marie Mukansanga	PAI-2 Users	18/04/2022 - 22/04/2022	Deepika Mahala, Shifali Guleria and Olivier Uwimana
Francois Ahimana	PAI-2 Users	18/04/2022-22/04/2022	Deepika Mahala, Shifali Guleria and Olivier Uwimana
Jean Bosco Mukamparirwa	PAI-2 Users	18/04/2022-22/04/2022	Deepika Mahala, Shifali Guleria and Olivier Uwimana
Nsazimana Jome	PAI-2 Users	18/04/2022-22/04/2022	Deepika Mahala, Shifali Guleria and Olivier Uwimana
Verene Nsekanaho	PAI-2 Users	18/04/2022-22/04/2022	Deepika Mahala, Shifali Guleria and Olivier Uwimana
Vestine Kanshonga	PAI-2 Users	18/04/2022-22/04/2022	Deepika Mahala, Shifali Guleria and Olivier Uwimana
Bernadette Mukahigiro	PAI-2 Users	18/04/2022-22/04/2022	Deepika Mahala, Shifali Guleria and Olivier Uwimana
Nyirarwango Konsolata	PAI-2 Users	18/04/2022-22/04/2022	Deepika Mahala, Shifali Guleria and Olivier Uwimana
Karaveri Kayumba	PAI-2 Users	18/04/2022-22/04/2022	Deepika Mahala, Shifali Guleria and Olivier Uwimana
Xaveri	PAI-2 Users	18/04/2022-22/04/2022	Deepika Mahala, Shifali Guleria and Olivier Uwimana
Nyiramana Jaqwerine	PAI-2 Users	18/04/2022-22/04/2022	Deepika Mahala, Shifali Guleria and Olivier Uwimana
Francoise Nyiranywayimana	PAI-2 Users	18/04/2022-22/04/2022	Deepika Mahala, Shifali Guleria and Olivier Uwimana
Apollinaire Mukanoheri	PAI-2 Users	18/04/2022-22/04/2022	Deepika Mahala, Shifali Guleria and Olivier Uwimana
Pierre Habinshuti	PAI-2 Users	18/04/2022-22/04/2022	Deepika Mahala, Shifali Guleria and Olivier Uwimana
Mukampamira Jova	PAI-2 Users	18/04/2022-22/04/2022	Deepika Mahala, Shifali Guleria and Olivier Uwimana
Cramantine Ngiuwonsanga-Antoine	PAI-2 Users	18/04/2022-22/04/2022	Deepika Mahala, Shifali Guleria and Olivier Uwimana

Uwimana M.chantal	PAI-2 Users	18/04/2022-22/04/2022	Deepika Mahala, Shifali Guleria and Olivier Uwimana
Monique Zaninka	PAI-2 Users	18/04/2022-22/04/2022	Deepika Mahala, Shifali Guleria and Olivier Uwimana

2.5 Resolution of Findings

The validation and verification protocols used for the assessment is designed in accordance with the latest version of latest VCS Program Documents and relevant CDM Standards. The validation and verification protocols are an internal document in Excel and available on request.

As an outcome of the joint validation and verification process, the assessment team can raise different types of findings. Clarification request (CL) is raised if information is insufficient or not clear enough to determine whether the applicable VCS/CDM requirements have been met. Where a non-conformance arises the validator/verifier raised a Corrective Action Request (CAR). A CAR is issued, where:

- The project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions.
- The CDM/VCS requirements have not been met.
- There is a risk that emission reductions cannot be monitored or calculated.

Forward Action Request (FAR) is raised during validation/verification to highlight issues related to project implementation that require review during the first verification of the project activity. FARs does not relate to the VCS/CDM requirements for registration.

Irrespective of the nature of findings, all of these are given to PP in a separate finding document. In this document, the project proponent(s) is/are given the opportunity to respond to the findings. Based on the responses by PP along with relevant supporting documents/evidence the validation team determines whether the findings are resolved or not. The findings may also be raised at later stage e.g., during internal technical review process and these are also communicated/dealt in the same manner as described above. The draft joint validation & verification report is also prepared during this period reflecting the status of the findings, if any, as appropriate.

In summary, the type and total number of findings that were raised are indicated below;

Type of Finding	CAR	CL	FAR
Total Findings	10	02	01

All the findings raised during this joint validation & verification of the project are included under Appendix IV of this report.

2.5.1 Forward Action Requests

01 Forward Action Requests (FARs) were raised during this assessment.

3 VALIDATION FINDINGS

3.1 Project Details

Project type, technologies and measures implemented, and eligibility of the project

The project “DelAgua Clean Cooking Grouped Project” falls into sectoral scope 03 and is appropriately selected in the VCS PD & MR and is implemented in Rwanda. The project category and type are correctly indicated in the VCS PD & MR/01/. It has been indicated as well as accepted that it is a grouped project.

The project entity i.e., DelAgua Health Rwanda (Voluntary) Limited is correctly listed in the VCS PD. No other entity has been listed.

The stoves under PAI 1 were distributed from 07/09/2014 as checked from the database/29/ and stoves under PAI 2 were distributed since 15/01/2016/29/. The GHG Emission Reduction for the project ICS were previously claimed under CDM by the CME (DelAgua Health Rwanda Limited). However, the ownership rights to credits generated from PAIs was sold by entity DelAgua Health Rwanda Limited to DelAgua Health Rwanda (Voluntary) Limited on 01/01/2019/34/, with effective date of rights transfer being 01/01/2019. The start date for the grouped project was previously proposed as 01/01/2019, which was approved by Verra on conditional basis for it to continue with the registration under VCS.

As per VCS Standard, the project start date is the date from which improved cookstoves first began generating GHG reductions for this project. This was later rejected by the Verra reviewer during the review for registration, and it was advised by Verra reviewer that the start date must be as per the definition within the VCS standard since the change in ownership of project technologies has no bearing on the start date of the project activity. Therefore, 15/09/2014 was revised as the project start date. This start date is accepted by VVB. The identification of project start date is in accordance with the latest VCS standard V4.3/03/. It is VVB’s interpretation that the start date of grouped project is 15/09/2014, but the exemption letter/47/ allows the project to begin its operations from 01/01/2019 for calculation of crediting period.

The project crediting period is correctly filled in VCS PD, which is of 7 years and twice renewable, for a maximum total of 21 years. The selected crediting period is consistent with the project start date and the first crediting period spans from 15/09/2014 to 14/09/2021 (both days included).

The project is correctly classified as large project as per VCS Standard /03/ as the average annual emission reductions are more than 300,000 tCO_{2e}. The estimated annual average emission reductions are estimated as 344,074 tCO_{2e} and the total emission reductions over the crediting period of 7 years are 2,408,517 tCO_{2e}. The estimated emission reductions are consistent with the corresponding ER spreadsheet /15/.

Project design, including eligibility criteria for grouped projects

The project activity involves distribution of improved cookstoves in households of Rwanda. The project is a voluntary initiative as host country laws do not mandate the distribution of ICS to the local communities. The project proponent is DelAgua Health Rwanda (Voluntary) Limited (“DelAgua”) who is using carbon finance to support local partners engaged in different activities like production, distribution, and maintenance of various product technologies. This project includes technologies, designed to reduce GHG emission by supplying high efficiency ICS to end-users and promoting public health to tackle several health challenges caused due to using less efficient stoves. The description of the ICS models is given in PD & MR/1/ and was confirmed from manufacturer’s specification document /21/.

The grouped project distributed only one model of ICS under PAI-1 and PAI-2. The details (provided below) of the ICS were confirmed from the manufacturer’s specifications/21/:

Name of the stove – EcoZoom Dura with Pot Skirt

Stove manufacturer – EcoZoom

Stove Type – Rocket

Stove Body – Cast Iron

Stove height – 32.1 cm

Stove diameter – 24 cm

Thermal efficiency – 44.9%

Stove lifetime – 7 years

The VCS PD & MR/1/ includes sufficient information with regard to project activity, system and product description and distribution plan. Further description on application and information on the ICS technology is given in Project Instance PD.

Project eligibility under VCS is assessed below:

A. Eligibility conditions

Scope	Applicability	VVB Assessment
The six Kyoto Protocol greenhouse gases.	The GP reduces GHG emissions associated with the combustion of cooking fuels. Gases included are CO ₂ , CH ₄ , N ₂ O.	PP has considered the GHG gases within the scope of Kyoto protocol which are reduced using improved cookstove under the grouped PA.
Ozone-depleting substances (ODS).	The GP does not involve any ODS.	The proposed grouped project does not involve any Ozone-depleting substances as it involves only dissemination of ICS.

Project activities supported by a methodology approved under the VCS Program through the methodology approval process.	The ICS distributed (& to be distributed) in the GP uses the methodology “VMR0006 “Methodology for Installation of High Efficiency Firewood Cookstoves”, version 1.1.” which is a VCS approved methodology.	The grouped project applies, VMR0006 “Methodology for Installation of High Efficiency Firewood Cookstoves”, version 1.1/7/ applicability of the methodology is assessed in detail under section 3.4 of this report.
Project activities supported by a methodology approved under a VCS approved GHG program, unless explicitly excluded under the terms of Verra approval.	Not applicable.	Not applicable

B. Excluded project activities under the VCS Program

Excluded Activity	Applicability	VVB Assessment
Activities that reduce hydrofluorocarbon-23 (HFC-23) emissions	N/A. The GP reduces GHG emissions associated with the combustion of cooking fuels	The proposed grouped project disseminates ICS which does not involve HFC-23. Thus, exclusion condition is not applicable.
Grid-connected electricity generation using hydro-power plants/units	N/A The GP activities are energy efficiency measures and do not generate electricity from hydro-power plants/units.	The proposed grouped project disseminates ICS which is not related to hydro-power plants. Thus, exclusion condition is not applicable.
Grid-connected electricity generation using wind, geothermal, or solar power plants/units	N/A. The GP activities are energy efficiency measures and do not generate electricity from wind, geothermal, or solar power plants/units.	The proposed grouped project disseminates ICS which is not related to hydro-power plants. Thus, exclusion condition is not applicable.
Utilization of recovered waste heat for, <i>inter alia</i> combined cycle electricity generation and the provision of heat for residential, commercial, or industrial use	N/A. The GP activities are energy efficiency measures and do not utilize recovered waste heat for any purposes.	The project does not involve any component of electricity generation. Thus, exclusion condition is not applicable.

Generation of electricity and/or thermal energy using biomass. This does not include efficiency improvements in thermal applications (e.g., cookstoves)	N/A. The GP activities are energy efficiency measures and do not generate electricity using biomass. The GP includes energy efficiency improvements in thermal applications, i.e., cookstoves.	The project does not involve any component of electricity generation. Thus, exclusion condition is not applicable.
Generation of electricity and/or thermal energy using fossil fuels, including activities that involve switching from a higher carbon content fuel to a lower carbon content fuel	N/A. The GP activities do not include the generation of electricity and/or thermal energy using fossil fuels, including activities that involve switching from a higher carbon content fuel to a lower carbon content fuel.	The project does not involve any component of electricity generation. Thus, exclusion condition is not applicable.
Replacement of electric lighting with more energy efficient electric lighting such as the replacement of incandescent electrical bulbs with CFLs or LEDs	N/A. The GP activities do not include the replacement of electric lighting.	The project does not involve any component of electricity generation. Thus, exclusion condition is not applicable.
Installation and/or replacement of electricity transmission lines and/or energy efficient transformers	N/A. The GP activities do not include the installation and/or replacement of electricity transmission lines and/or energy efficient transformers.	The project does not involve any component of electricity generation. Thus, exclusion condition is not applicable.

Eligibility criteria to include PAIs:

S No	Criterion	How the new project activity instances comply	VVB Assessment
1	Project Activity Instances (PAIs) must meet the applicability conditions set out in the applied methodology.	See below	See below

1a	Project activities shall be implemented in domestic premises or in community-based kitchens.	Each PAI will distribute technology that is appropriate for domestic use to household end-users	PP will provide ICS appropriate only for domestic scale. The specification of the ICS to be distributed were checked from Manufacturer's specifications/21/ confirming the target users for future PAIs. Project ICS distribution database/29/ containing unique household and end user information was checked along with physical visit to the households to confirm the target end users of the PAIs already implemented. The locations coordinates were checked using get-geocoordinates app.
1b	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.	ICS distributed in each PAI will have a thermal efficiency of at least 25% and will be confirmed by the end user that they were using the firewood as the cooking fuel in the project's baseline. Each PAI will record the baseline and project fuel use to ensure that wood fuel is the sole source of energy.	The ICSs distributed till now is Dura stove. Other than this Burn Kurnikoa is planned to be distributed. The technical description of both the stoves were checked from the Manufacturer's specifications/21/. The design efficiency pf both the stoves are higher than 25%. Information recorded in the baseline KPT on the baseline fuel usage were corroborated through VVB survey to the households on which

			baseline KPT were performed. During monitoring the fuel used in project scenario will be confirmed.
1c	Both 'Projects' and 'Large Projects' can use the methodology	PAIs will comply with the GP requirements	The GP is defined as a "Large Project" in Joint PD and MR as the guidelines set out in the VMR0006/7/. The scale of the project was also confirmed through review of estimated ER sheet/15/.
1d	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.	Each PAI will demonstrate that Non-renewable biomass has been used in the project region since 31 December 1989.	The use of Non-renewable biomass since 1989 was confirmed through published report/37,38/.
1e	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 I Energy use for renewable biomass processing (e.g., shredding and compacting in the case of briquetting) may	Biomass residues are not processed as a fuel to be used in the GP. End users will be asked to state their source of energy and baseline appliance at the point of distribution and during the project monitoring. Above information will be stored in the monitoring database.	The project is not conducting any activity to process biomass. The monitoring plan include monitoring surveys to confirm the fuel used in the project scenario. PP had shown the Project ICS distribution poster during the sit visit, which explains the end-users to correctly use the ICS with wood fuel.

	be considered as equivalent to the upstream emissions associated with the processing of the displaced fossil fuel and hence disregarded.		
1f	The Project Design Document 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)	To avoid double counting of emission reductions through the method of distribution, each cookstove has a unique identifier number and the distribution of each stove is logged onto a database which includes unique information for each recipient Each PAI will have system for avoiding double counting with data being collected via a smartphone app (where possible), or via paper forms, including: 1. Date of distribution 2. A unique serial number on each technology 3. Available end-user data: name, phone number, address/physical location, ID number	The proposed group project will maintain database with end user details and the UID of the device they receive. The device has UID along with the DelAgua logo to avoid double counting with any other GHG project in the same area. Moreover, the households are checked for previous stove in use before installation of the new project ICS in the household. The same has been followed for PAI 1 and PAI 2/29/.
1g	The Project Design Document 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	The End User Agreement confirms that the ownership rights of the ER/VCUs generated by the PAI reside with the PP. The signature of each end user confirming their understanding of this agreement will be collected at the point of distribution. The End User Agreement will be in English and translated into a local	End users will be asked to sign end user agreement to confirm that they transfer the rights to GHG on receipt of stoves for new PAIs. For PAI 1 and PA I2 sample agreements have been shared to confirm

	reductions from the project devices.	language where required. If necessary, it will be read out to the End User. All rights to distribute the delivered stoves and claim the resultant GHG emissions reductions belong to the PP. The GP will not include any PAI that has been rejected by another GP, or PA-DDs of any other GHG programs.	transfer of GHG rights/34/.
2	Use the technologies or measures specified in the project description.	Only ICS that conform with the GP description are to be distributed in the project. The ICS will be chosen to deliver a level of service at least equivalent to the baseline appliance.	The ICSs distributed till now is Dura stove. Other than this Burn Kurnikoa is planned to be distributed. The technical description of both the stoves were checked from the Manufacturer's specifications/21/. The design efficiency of both the stoves are higher than 25%.
3	Apply the technologies or measures in the same manner as specified in the project description.	The ICS distributed in the PAIs will adhere to the GP description and replace biomass burned in the baseline scenario.	The PAIs will include only the ICS shown to be meeting methodology applicability criterion in the Joint PD and MR. The same has been followed for PAI 1 and PAI 2/29/.
4	Are subject to the baseline scenario determined in the project description for the specified project activity and geographic area.	All new PAIs will be implemented only in regions within the geographic borders of Rwanda subject to the same baseline scenario determined in Section 3.4 in this Project Description. The geographical location of the project ICS can be traced through	The PP will record the baseline stove at the time of distribution and document in ICS Distribution database. The PP has provided the database with baseline stove information for PAI 1

		the information provided in the distribution database, which includes the latitude and longitude data of the ICS distributed.	and PAI 2 to confirm that traditional woodstove has been replaced by the project stove/39/.
5	Have characteristics with respect to additionality that are consistent with the initial instances for the specified project activity and geographic area.	All new PAIs will use the activity method for demonstration of additionality. Step 1: Regulatory Surplus There is no government mandated programme or policy in host country of this project ensuring the distribution of new project activity instances. Step 2: Positive List The inclusion of new project activity instances will comply with the positive list as it satisfies criterion 1 where it meets all the applicability conditions of the methodology. Where the project activity installs or distributes stoves at zero cost to the end-user and has no other source of revenue other than the sale of GHG credits, the project activity shall be deemed additional.	An analysis of Rwandan government programmes or policy for cookstoves as shown under Section 3.5 of Joint PD and MR. The PP has provided the End User Agreement to confirm that ICS under PAI 1 and PAI 2 were distributed at zero cost. Thus, the PAIs are considered auto additional. Similar approach will be followed for future PAIs.
6	Where a capacity limit applies to a project activity included in the project, no PAI shall exceed such limit. Further, no single cluster of project activity instances shall exceed the capacity limit, determined as follows:	The GP does not have any specified capacity limits applicable, since there are no capacity limits defined within the applied methodology, VMR0006, ver. 1.1. Therefore, this eligibility criterion is not applicable.	The applied methodology does not specify capacity limits/7/.

	Each device that exceeds one percent of the capacity limit shall be identified. Such instances shall be divided into clusters, whereby each cluster is comprised of any system of instances such that each instance is within one kilometre of at least one other instance in the cluster. Instances that are not within one kilometre of any other instance shall not be assigned to clusters. None of the clusters shall exceed the capacity limit and no further project activity instances shall be added to the project that would cause any of the clusters to exceed the capacity limit.		
Eligibility conditions specific to inclusion of New PAIs			
7	The new PAI must occur within one of the designated geographic areas specified in the project description.	The distribution of the ICS is based on a MoU signed with the Government of Rwanda, and therefore, the project activity only distributes to the beneficiaries that are provided in Ubudehe based list of the districts. There is no way this program/GP can distribute ICS in the boundaries of the neighbouring countries of Rwanda. This requires passing of the project ICS through customs and other procedural regulations.	The PP will sign an MOU with Rwanda government and decide the designated geographical area for distribution. The condition has been set correctly in line VCS standard v4.2/3/.
8	The new PAI must comply with at least one complete	The eligibility criteria set must be complied by the PAIs at all points	The new PAIs will demonstrate

	set of eligibility criteria for the inclusion of new project activity instances. Partial compliance with multiple sets of eligibility criteria is insufficient.	in time throughout the crediting period. If at any point, it is found that the PAI is not complying with the set of eligibility criteria, then it may be excluded from the crediting for the duration of the monitoring period, until it is able to demonstrate the compliance of the eligibility criteria.	conformation with eligibility criteria in the MR. The condition has been set correctly in line VCS standard v4.2/3/.
9	The new PAI must be included in the monitoring report with sufficient technical, financial, geographic and other relevant information to demonstrate compliance with the applicable set of eligibility criteria and enable sampling by the validation/verification body.	The new PAI will include all the technical, financial, geographic and other relevant information related to the compliance of the applicable set of eligibility criteria & also enable sampling by the VVB.	The new PAIs will demonstrate conformation with eligibility criteria in the MR in line with Joint PD and MR. The condition has been set correctly in line VCS standard v4.2/3/.
10	The new PAI must be validated at the time of verification against the applicable set of eligibility criteria.	The new PAI(s) shall be part of the monitoring, and therefore, will be validated against the criteria specified, by an VCS accredited/approved VVB.	The new PAIs will demonstrate conformation with eligibility criteria in the MR in line with Joint PD and MR. The condition has been set correctly in line VCS standard v4.2/3/.
11	The new PAI must have evidence of project ownership, in respect of each project activity instance, held by the project proponent from the respective start date of each project activity instance (i.e., the date upon which the project activity	The PAI related evidence on the project ownership will be in the form of a distribution end user receipt poster. This will be signed by the end user, and a photograph of him/her holding the poster along with the ICS will be saved in the PAI database.	The start date of the new PAIs will be determined through the installation documents of the first unit which will be checked at the time of inclusion. The condition has been set correctly in line VCS standard v4.2/3/.

	instance began reducing or removing GHG emissions).		
12	The new PAI must have a start date that is the same as or later than the grouped project start date.	Start date of each PAI shall be stated in the MR	The start date of the new PAIs will be determined through the installation documents of the first unit disseminated under them which shall be after the start date of the grouped project. The condition has been set correctly in line VCS standard v4.2/3/.
13	The new PAI must be eligible for crediting from the start date of the instance through to the end of the project crediting period (only). Note that where a new project activity instance starts in a previous verification period, no credit may be sought for GHG emission reductions or removals generated during a previous verification period (as set out in Section 3.4.4 of the VCS Standard, ver. 4.2) and new instances are eligible for crediting from the start of the next verification period.	The PAI will be only eligible for the crediting from its start date through to the end of the project crediting period (only).	The start date of the new PAIs will be determined through the installation documents of the first units disseminated under them. The end date will be cross checked with the end date published on VCS registry. The condition has been set correctly in line VCS standard v4.2/3/.

Project proponent and other entities involved in the project

DeI Agua Health Rwanda (Voluntary) Limited is the project proponent of the project. No other entity is involved in this project.

Ownership

PP has the ownership of project and carbon credits generating from the implementation of project after 01/01/2019. This has been clearly mentioned in the VCS PD & MR section 1.7 /1/ and was confirmed

by reviewing manufacturer's agreement and MoU signed between PP and Government of Rwanda /35//26/. Also, end-user agreement is signed with each end-user receiving project technology (ICS) to confirm the ownership of rights are only held by PP and end-users do not have rights on carbon credits generating from the use of project technology. VVB confirmed that all the evidence were found to be acceptable with regard to the ownership of the project or right to use. It was found to be in compliance with section 3.6.1 of VCS standard/3/. independent research was conducted to confirm that the project is not listed under any emission trading programs or other binding limits.

Project start date

The start date of the grouped project activity, as identified by the PP is 01/01/2019, as it is the date of transfer of rights of GHG emissions/34/. However, the date from which the stoves generated GHG for this grouped PA is 15/09/2014. Therefore, the start date of the project to calculate the crediting period is 15/09/2014, which is acceptable, as it is in agreement with the exemption letter approval provided by Verra/47/.

Project crediting period

The project crediting period will be seven years, twice renewable, for a maximum total of 21 years. The first crediting period will be 15/09/2014 to 14/09/2021.

Project scale and estimated GHG emission reductions or removals

The scale of the project is large project, and the estimated average annual GHG emission reductions are 344,074 tCO_{2e}. The total emission reductions over the crediting period of 7 years are 2,408,517 tCO_{2e}. The estimated emission reductions are consistent with the corresponding ER spreadsheet /15/.

Project location

The project location is Rwanda, and all the project activity instance will be implemented within the boundaries of Rwanda. The project boundary for each Project Activity Instance is the physical, geographical location of the ICS in that Project Activity Instance in Rwanda. The geographical coordinates of the project site were verified at the time of verification survey samples during VVB on-site visit. Get-geocoordinates mobile application was used to check the geographical coordinates for the samples visited on-site. The information made available by the PP, the KML files shared of the distribution districts within Rwanda/51/, and the geo-coordinates obtained by VVB// have been verified during the site visit and found to be consistently defining the project location as the geographical boundaries of the host country Rwanda. Therefore, this was found to be acceptable by the VVB.

Conditions prior to project initiation

The baseline scenario of the project consists of use of non-renewable biomass/ charcoal for cooking in households throughout the project location.

Project compliance with applicable laws, statutes, and other regulatory frameworks

As this grouped project is a distribution of ICS technologies, this does not come under purview of Environment Impact Assessment (EIA) as per Rwandan laws and regulatory framework. This was verified through General Guidelines and Procedure for Environmental Impact Assessment, Republic of Rwanda /08/

Participation under other GHG programs:

Please refer section 3.2 of this report.

Other forms of credit:

The project confirms in section 1.16 of the joint PD & MR /1/ that this grouped project does not reduce GHG emissions from activities that are included in an emissions trading program. Rwanda does not have its own ETS. Also, it does not seek or receive another form of GHG-related environmental credit.

Sustainable development contributions

The project is contributing to 8 SDGs for the PAI – 1 & PAI – 2:

SDG 1 No Poverty– Indicator 1.4.1 Proportion of population living in households with access to basic services. 98.51% of PAI-1 users and 99.04% of PAI-2 users are poor income class and was confirmed from the Monitoring survey.

SDG 3 Good Health and Well Being – Indicator 3.9.1 Mortality rate attributed to household and ambient air pollution. In the current monitoring period, 97.91% of PAI-1 users and 99.52% of PAI-2 users did experience less smoke and pollution after using the project device and this was confirmed from the monitoring survey.

SDG 4 Quality Education – Indicator 4.7.1 Extent to which (i) global citizenship education and (ii) education for sustainable development are mainstreamed in (a) national education policies; (b) curricula; (c) teacher education; and (d) student assessment. The number of CHWs trained by the end of M.P.-1 are 4,783. 100,567 and 195,227 people were educated in PAI-1 and PAI-2 respectively and this has been explained in the PD/MR.

SDG 5 Gender Equality – Indicator 5.4.1 Proportion of time spent on unpaid domestic and care work, by sex, age and location In the current monitoring period, 204 users out of 335 in PAI-1 users and 254 users out of 415 in PAI-2 users did experience less time in collecting fuelwood and this was confirmed from the monitoring survey.

SDG 7 Affordable and Clean Energy – Indicator 7.1.2 Proportion of population with primary reliance on clean fuels and technology In the current monitoring period, 100,567 and 195,227 people received ICS in PAI-1 and PAI-2 respectively and this was confirmed from the monitoring survey

SDG 8 Decent Work and Economic Growth – Indicator 8.3.1 Proportion of informal employment in total employment, by sector and sex. In the current monitoring period, the project activity provided informal employment to more than 5,500 people

SDG 13 Climate Action – Reduction in GHG emissions as a result of switching to efficient and/or clean technologies. During the current monitoring period, the GHG emission reductions total to 2,408,517 tCO_{2e} and this was confirmed from the ER sheet calculations.

SDG 15 Life on Land – Indicator 15.4.2 Mountain Green Cover Index. In the current monitoring period, 157,750 and 307,351 tons of woody biomass was saved in PAI-1 and PAI-2 respectively.

All the SDGs listed in the PD/MR have been assessed by the VVB thoroughly by desk review and also cross checked them during the on-site visit done by VVB.

Additional information relevant to the project

PP also mentioned in the PD & MR that this grouped project also seeks certification under SD Vista and the monitoring and reporting of these SDGs will be demonstrated as per the requirements of SD Vista.

The VCS PD&MR does not indicate any information that is commercially sensitive in nature. No further information is included in the VCS Joint PD & MR/1/. This is to confirm that the information in the project description is accurate, complete, and provides an understanding of the nature of the project.

CL#01, CAR#01, CAR#02, CAR#03 were raised and resolved.

3.2 Participation under Other GHG Programs

PP has declared in the joint PD and MR, ICS under PAI-1 & PAI-2 were distributed in 2014 & 2016 respectively and registered under the CDM PoA 9626 under CPA-9626-001 to CPA-9626-016. However, because of the lack of funds the CDM entity was unable to operate and maintain these CPAs under CDM. But CPAs 18-32 were funded by different investor, and hence will continue to issue credits under the CDM, as the ICS units under these CPAs are different from those distributed under the CPAs 1-16.

CPAs 18 – 27 were issued for 4th Issuance, for the monitoring period 01/01/2019 – 31/05/2020, and for 5th Issuance, for the monitoring period 01/06/2020 – 31/12/2020 under CDM. The details of the issuance for the CPA 1-16 under CDM are listed below:

CPA reference number	CPA specific Issuance details
9626-P1-0001-CP1	Issuance 1: 9626-MP1-IRP1 (15/09/2014 – 31/03/2015); Issuance 2: 9626-MP2-IRP1 (01/04/2015 – 14/09/2015); Issuance 3: 9626-MP3-IRP1 (15/09/2015 – 31/12/2018)
9626-P1-0002-CP1	
9626-P1-0003-CP1	
9626-P1-0004-CP1	
9626-P1-0005-CP1	
9626-P1-0006-CP1	
9626-P1-0007-CP1	
9626-P1-0008-CP1	Issuance 3: 9626-MP3-IRP1 (15/09/2015 – 31/12/2018)
9626-P1-0009-CP1	

9626-P1-0010-CP1	
9626-P1-0011-CP1	
9626-P1-0012-CP1	
9626-P1-0013-CP1	
9626-P1-0014-CP1	
9626-P1-0015-CP1	
9626-P1-0016-CP1	
9626-P1-0017-CP1	No Issuance under CDM

The rights to claim GHG were transferred from DelAgua Health Rwanda Limited to DelAgua Health Rwanda (Voluntary) Limited and project has been requested to be registered under VERRA. The CDM website (PoA 9626) was checked to confirm that the GHG emission reductions for these units have only been claimed till 31/12/2018/48/.

3.3 Safeguards

3.3.1 No Net Harm

As this grouped project is a distribution of ICS technologies, this does not come under purview of Environment Impact Assessment (EIA) as per Rwandan laws and regulatory framework. This was verified through General Guidelines and Procedure for Environmental Impact Assessment, Republic of Rwanda /08/ it is identified in the PD & MR /1/ that as per Ministerial Order No. 004/2008: Ministerial Order establishing the list of works, activities and projects that have to undertake an environment impact assessment, this project of distribution of ICS does not require EIA. VVB accepted this justification that since project does not need environmental assessments, supports that project does not cause environmental harm.

3.3.2 Local Stakeholder Consultation

The grouped project includes already implemented PAI-1 and PAI-2 and also envisages inclusion of new PAIs in future.

For PAI-1 and PAI-2 LSC was done under CDM program on 17/07/2012 following all rules and requirement as checked from CDM validation report/40/. No issues were received during that LSC meeting, and the end users have been provided with number, email and through Community Health Workers.

For PAIs to be implemented in future, the project is a voluntary initiative in collaboration with Government of Rwanda. Joint Action Development Forum (JADF) are held by the local government in order to achieve the approval from the government entities involved in the facilitation of the program. The JADF meetings are conducted in three stages – 1. Introduction Meeting with the District Office; 2. Signing of the

Collaboration Agreement with the District Government; & 3. Discussion on the project Action Plan and distribution schedule.

DeAgua took part in the JADF of Gicumbi district (on 10/01/2022), Gakenke district (on 11/01/2022), Nyagatare district (on 09/02/2022) and Musanze district (on 08/02/2022).

Collaboration agreements and MOM/10/ between PP and JADF has been reviewed. During this meeting, the expected dates for distribution and number of beneficiaries are informed by the cell government to the PP. Third JADF meeting took place in April 2022. PP received official confirmation to propose and implement this project with local governmental officials from government of Rwanda. It is mentioned in the Joint PD & MR /1/ that JADF consultations will be held in other districts as the project expands, and same has been confirmed through PP at the time of site visit.

Comments received for current MP:

1. The ICSs received are aging. The PP aims to claim only for the period stoves are demonstrated to be in operational condition, and only for the fraction of their usage in the daily cooking practices.
2. Concern on Systematic Distribution Approach which was a data management practice by PP to avoid stacking and double counting. PP ensures that no end users listed in PAI-1 and PAI-2 database shall receive a new ICS until the Old ICS is surrendered back, which can be done only after expiry of the previous stove.

The VVB interviewed JADF participants to confirm the details about the meeting.

CL#02 was raised and solved.

3.3.3 Environmental Impact

No environmental impact assessment has been done for this project as the project type is exempted from EIA as per Rwandan laws and regulations. Please see section 3.3.1 of this report for further clarification.

3.3.4 Public Comments

This project was open for public comment from 17/03/2022 to 16/04/2022. No comments were submitted during the public comment period as confirmed from the project registry webpage /20/.

3.3.5 AFOLU-Specific Safeguards

This project is a non-AFOLU projects, therefore this section is not required.

3.4 Application of Methodology

3.4.1 Title and Reference

The project, as given in the section 3.1 of VCS Joint PD & MR /1/, has applied VMR0006 Methodology for Installation of High Efficiency Firewood Cookstoves, version 1.1/7/ and relevant tools prescribed

therein. The reference to the versions of the tools and methodology were found to be valid for use. The validity of the versions of the applied methodology and tools were checked from Verra and CDM websites.

Tools applied in this project are listed below:

CDM TOOL01 “Tool for the demonstration and assessment of additionality” Version 07

CDM TOOL21 “Demonstration of additionality of small-scale project activities” Version 13.1

CDM TOOL30 “Calculation of the fraction of non-renewable biomass” Version 3.0

CDM Guideline “Sampling and surveys of CDM project activities and programmes of activities” version 4.0

CDM Standard “Sampling and surveys for CDM project activities and programmes of activities” version 9.0

3.4.2 Applicability

The project “DelAgua Clean Cooking Grouped Project” complies with each applicability condition of the identified methodology /7/. The same has been justified in the following table.

As per para 3.7.1. of VCS standard, on-AFOLU projects shall complete validation within two years of the project start date. Additional time is granted for non-AFOLU projects to complete validation where they are applying a new VCS methodology. Specifically, projects using a new VCS methodology and completing validation within two years of the approval of the methodology by Verra may complete validation within four years of the project start date. Since the project start date was determined to be 01/01/2019 and the applied methodology was approved on 08/09/2020. The validation can be completed within 2 years i.e., by 07/09/2020. It shall be noted that the project applies latest version of the methodology/7/.

Applicability criteria of VMR0006 Methodology for PAIs to be included

No.	Applicability Condition	Justification of applicability	Means of assessment
1	Project activities shall be implemented in domestic premises or in community-based kitchens.	Each PAI will distribute technology that is appropriate for domestic use to household end users	The aim of the project is to reduce GHG emission and provide improved cookstoves following this methodology/7/ in households of Rwanda.
2	The project stove shall have specified high-power thermal efficiency of at least 25% per the manufacturer’s specifications and shall exclusively use woody biomass	ICS distributed in each PAI will have a thermal efficiency of at least 25% Each PAI will record the baseline and project fuel	Thermal efficiency of all the ICS will be more than 25% which shall be demonstrated at the time of PAI inclusion.

	and can be single pot or multi-pot; in case of project stove replacing fossil fuel baseline stove, it shall exclusively use renewable biomass.	use to ensure that wood fuel is the sole source of energy.	
3	Both 'Projects' and 'Large Projects' can use the methodology	PAIs will comply with the GP requirements	PAIs will demonstrate through estimation of ER in calculation sheet/15/ which category does it fall under, thus, the grouped project meets the Group project requirements set out in the methodology/7/
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.	Each PAI will demonstrate that Non-renewable biomass has been used in the project region since 31 December 1989.	It will be demonstrated for the future PAIs as well.
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 I 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	Biomass residues are not processed as a fuel to be used in the GP.	The project involves distribution of ICS products and does not involve with biomass residues; therefore, this criterion is not applicable.

	of the displaced fossil fuel and hence disregarded.		
6	The Project Design Document 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)	In order to avoid double counting of emission reductions through the method of distribution, each cookstove has a unique identifier number and the distribution of each stove is logged onto a database which includes unique information for each recipient Each PI will have system for avoiding double counting with data being collected via a smartphone app (where possible), or via paper forms, including: Date of distribution A unique serial number on each technology Available end-user data: name, phone number, address/physical location, ID number	Each PAI will maintain a database/29/, with date of installation and UID of the product as a mechanism to avoid double counting.
7	The CDM-PDD or CDM-PoA-DD/CPA-DD 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	The End User Agreement confirms that the ownership rights of the ER/VCUs generated by the PAI reside with the PP. The signature of each end user confirming their understanding of this agreement will be	End user agreement/25/ will be collected from each household to transparently show the transfer of GHG rights.

	reductions from the project devices.	collected at the point of distribution. The End User Agreement will be in English and translated into a local language where required. If necessary, it will be read out to the End User. All rights to distribute the delivered stoves and claim the resultant emissions reductions belong to the PP. The GP will include any PAI that has been rejected by another GP, or PA-DDs of any other GHG programs.	
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Applicability criteria of VMR0006 Methodology for PAI 1 & 2

No.	Applicability Condition	Justification of applicability	Means of assessment
1	Project activities shall be implemented in domestic premises or in community-based kitchens.	Both PAI-1 & 2 have distributed ICS to the households in Rwanda in 2014 & 2016 respectively.	The aim of the project is to reduce GHG emission and provide improved cookstoves distributed in households only following this methodology /7/ as checked from the database/29/ and site visit to sampled households.
2	The project stove shall have specified high-power thermal efficiency of at least 25% per the manufacturer's specifications and shall exclusively use woody biomass and can be single pot or multi-pot; in case of project stove replacing fossil fuel baseline	ICS distributed under PAI-1 & 2 have the thermal efficiency >25%, which is evident from the respective year of the monitoring applicable to the ICS life. For year 2019 of monitoring period, the	Thermal efficiency of all the ICS is more than 25% as confirmed from the Manufacturer's specification/21/, therefore, the criterion has been met.

	stove, it shall exclusively use renewable biomass.	thermal efficiency for the fifth and third year of the PAI-1 & 2 distributions were applied, which were 0.4054 & 0.4137 respectively. Similarly, subsequent years of the monitoring period applied the applicable drop in the efficiency value. All the applied values during the first monitoring period are >25% thermal efficiency value. The woody biomass usage is monitored during the first monitoring period, at both baseline level as well as project level. This can be verified from the monitoring surveys for PAI-1 & 2.	
3	Both 'Projects' and 'Large Projects' can use the methodology	PAI-1 & 2 within the GP are categorized under large project category.	The Project activity qualifies as large project as checked from ER sheet with estimated emission calculation/15/.
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 PAI-1 & 2 are implemented in the host country Rwanda, and it has already been mentioned in Section 1.4 by using the available literature that the host country Rwanda has been using firewood as a source of fuel for their cooking requirements.	The use of nonrenewable biomass in the host country was confirmed through published report.
5	For the specific case of biomass residues processed	This is not applicable for the PAI-1 & 2.	The project involves distribution of ICS products and does not involve

	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.		with biomass residues; therefore, this criterion is not applicable.
6	The Project Design Document 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)	In order to avoid double counting of emission reductions through the method of distribution, each cookstove has a unique identifier number and the distribution of each stove is logged onto a database which includes unique information for each recipient Both PAI-1 & 2 were implemented with the system for avoiding double counting, with data being collected via a smartphone app, including:	The unique ID associated with each ICS product distributed to end-users were checked during site visit and were found correct and consistent with the sampling survey records/27/ and the database/29/.

		1. Date of distribution 2. A unique serial number on each technology 3. Available end-user data: name, phone number, address/physical location, ID number	
7	The CDM-PDD or CDM-PoA-DD/CPA-DD 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 End User Agreement confirms that the ownership rights of the ERU/VCUs generated by the PAI-1 & 2 reside with the PP. The signature of each end user confirming their understanding of this agreement is collected at the point of distribution. The End User Agreement is bilingual, i.e., in English as well as translated into the local language Kinyarwanda. In cases where the end-user was unable to understand the agreement, it was read out to them for the sake of their clarity. All rights to claim the resultant emissions reductions for the ICS under the PAI-1 & 2 belong to the PP. PAI-1 & 2 have not been rejected by another GP, or PoA-DDs of any other GHG programs.	The unique ID associated with each ICS product distributed to end-users were checked during site visit and were found correct and consistent with the sampling survey records/27/ and the database/29/.

3.4.3 Project Boundary

The project boundary and identified GHG sources, sinks and reservoirs for the project and baseline scenarios are appropriately defined in the VCS PD & MR /1/. All the project activity instances (PAIs) that will be added in within the project boundary i.e., Rwanda. The selection and justification for inclusion or exclusion is appropriate and duly supported in the VCS PD & MR/1/.

The PP has considered CO₂, CH₄ and N₂O as major GHG in the baseline scenario and project scenario. Emission from burning of non-renewable biomass has been considered in both the scenario. The approach was found to be in line with the applied methodology/7/.

3.4.4 Baseline Scenario

The baseline scenario for ICS has been identified using the methodology VMR0006 Methodology for Installation of High Efficiency Firewood Cookstoves, version 1.1 /7/. As per section 6 of applied methodology, the baseline scenario is the continued use of non-renewable wood fuel (firewood/charcoal) or fossil fuel (coal/kerosene) by the target population to meet similar thermal energy needs as provided by project cookstoves in absence of project activity.

The project activity involves distribution of improved cookstoves to the households in Rwanda. In the absence of project activity, the cookstoves used in the households are of three stone fire and conventional stoves with less efficient combustion system. As informed in the PD section 1.1/1/, the energy and mass flows, and the type and level of service provided through improved cookstoves in project scenario will remain same as of baseline scenario. This has been ensured by checking manufacturer's specification of ICS introduced through this project /21/ and independent desk review. As per Rwandan government energy division statistics, 51% Rwandan households have access to electricity, connected to the national grid (37%) or through off-grid systems (14%). According to Rwanda Integrated Household Living Conditions Survey, firewood remains the most common type of cooking fuel in 93% of the households.

The procedures for identifying the baseline scenario have been correctly followed and the identified scenario reasonably represents what would have occurred in the absence of the project. VVB confirms that the applied methodology, tools, and documentary evidence/41,42,43/ are correctly quoted and interpreted. The assumption and data can be deemed reasonable. The VCS PD & MR/1/ considers the national and sectoral policies in effect. The selected methodology /7/ has been correctly applied to identify the baseline scenario as what would happen in the absence of the project and in compliance with the prescription given therein.

CAR#04 was raised and resolved.

3.4.5 Additionality

PP has demonstrated additionality according to the applied methodology /7/ as given below.

The activity method is used by the PP to demonstrate additionality as prescribed by VMR0006, v1.1 /7/. The project is not mandated by Rwandan laws and the project is deemed additional as the project meet all the applicability conditions of the methodology and also comply with the positive list. Under the additionality section of the applied methodology /7/, it is stated that where the project activity installs or distributes stoves at zero cost to the end-user and has no other source of revenue other than the sale of GHG credits, the project activity shall be deemed additional. Since the project is distributing improved cookstoves at zero cost to the end-user, the project is deemed additional.

Therefore, VVB confirms that the project additionality has been sufficiently proved by the PP in accordance with the applied methodology VMR0006, v1.1 /7/.

CAR#04 was raised and resolved.

3.4.6 Quantification of GHG Emission Reductions and Removals

The project follows methodology VMR0006, v1.1. All the parameter considered for calculation of emission reductions are correctly applied by the PP.

S.No.	Parameter	Value applied	Means of assessment
1.	B _{old}	4.4092 tonnes/year	The parameter represents annual quantity of woody biomass that would have been used in the household in the absence of the project activity to generate useful thermal energy equivalent to that provided by the project devices. According to methodology /7/, the value of B _{old} can be sourced from historical data or baseline surveys. The source of the data has been taken from baseline KPT survey/44/ and was found correct and acceptable upon checking the KPT excel sheet /44/. The description, source, and justification of choice of data is included in accordance with applied methodology /7/. The value is consistent in Joint PD-MR/1/ and ER calculation sheet/15/. The validation team had also conducted survey to visit the households where KPT was performed to confirm the conduction of activity. A sample size of 137 was considered for Baseline KPT considering the non-response scenario of the survey/44/. According to the methodology applied/7/, since the population size is more than 1000, the minimum sample size is 100

			which is achieved in the scenario. The results were validated from test results in the baseline KPT survey sheet and KPT excel sheet /44/ and cross checking through physical site visit with the households which were picked up as samples.
2.	η_p	Kuniokoa Generation 2 0.4387 for project stove without skirting 0.51 for project stove with pot skirting Dura Woodstove 0.449 for project stove with skirting 0.409 for project stove without pot skirting	The parameter represents efficiency of project stove at the start of project activity. The value of the parameter is sourced from Certification of product specifications, certified by the Centre for Research in Energy and Energy Conservation (CREEC) lab /32/ and manufacturer's specification/21/. The value applied was found valid and correct. The description, source, and justification of choice of data is included in accordance with applied methodology /7/. The value is consistent in PD & MR/1/ and ER calculation sheet/15/.
3.	Life Span	Dura Woodstove 7 years	The parameter represents operating lifetime of project device for projects opting Equation 6 $\eta_{new,i,y} = \eta_p \times (DF_n)^{y-1} \times 0.94$ for updating project stove efficiency during project crediting period. The value of the parameter is sourced from manufacturer's specification /21/. The value applied was found valid and correct. The lifespan of Dura stove was discussed under CAR#06 point 2. Please refer appendix IV of this report.
4.	$NCV_{biomass}$	0.0156 TJ/tonne	The parameter represents net calorific value of the non-renewable woody biomass. The value has been sourced from IPCC /33/ and was found correct and valid. The value is consistent in Joint PD-MR/1/ and ER calculation sheet/15/.
5.	$EF_{wf\ CO_2}$	112 tCO ₂ /TJ	The parameter represents CO ₂ emission factor for woody biomass. The value has been sourced from IPCC/33/ and was found correct and valid. The value is consistent in Joint PD-MR/1/ and

			ER calculation sheet/15/ and was determined in line with the applied methodology/7/.
6.	$EF_{wf \text{ non-CO}_2}$	26.23 tCO ₂ /TJ	The parameter represents non-CO ₂ emission factor for woody biomass. The value has been sourced from IPCC /33/ and was found correct and valid. The value is consistent in Joint PD-MR/1/ and ER calculation sheet/15/ was determined in line with the applied methodology/7/.
7.	LF	0.95	The parameter represents the leakage factor applied to account for increase in NRB use outside the project boundary. The value of the parameter, 0.95 is from section 8.3 of methodology/7/. The section states that leakage shall be considered as default 0.95 in accordance with Section 5.4 of AMS-II.G. The value is consistent in Joint PD-MR/1/ and ER calculation sheet/15/ was determined in line with the applied methodology/7/.
8.	$f_{NRB,y}$	0.9682	The parameter represents fraction of woody biomass that can be established as non-renewable biomass. The value is sourced from published f_{NRB} value for GS VPA 11133/45/. The value had been calculated applying Tool 30. The value is consistent in Joint PD-MR/1/ and ER calculation sheet/15/ was determined in line with the applied methodology/7/.

Parameters to be monitored:

S.No.	Parameter	Monitoring frequency	Means of assessment
1.	$N_{y,i,j}$	At least once every two years	The parameter will be recorded in the database and updated for operational rate through monitoring surveys in-line with the applied methodology/7/. Actuals are applied for PAI-1 & 2, since the end of first monitoring period is also the end of first crediting period.
2.	η_{old}	Fixed for each individual household at first HH visit	The value applied for the ex-ante estimates is the same as the actual value obtained at the

			time of distribution of ICS units for PAI-1 and PAI-2. This is because there are no ex-ante estimates for the crediting period – 1.
3.	$\eta_{\text{new},i,j}$	Annually	The parameter represents the efficiency of the device of each type i and batch j. The efficiency of the distributed cookstove will not be monitored as the applied methodology/7/ has a provision of default loss in efficiency for each year. Design efficiencies in-line with the manufacturer's specifications/21/ have been used to arrive at the ex-ante efficiency value for each year within the crediting period /15/.
4.	μ_y	At least once every two years	This parameter represents the adjustment to account for any continued use of pre-project devices during the year y. The data will be monitored at least once every two years.

Baseline Emissions and Project emissions:

It was checked with the applied methodology that there are no baseline emissions and are not quantified separately. The emission reductions saved under the project are calculated through one equation which directly evaluates the GHG saving of amount of fuel saved on switching to new ICS as compared to the previous stove.

Leakage emissions

Leakage shall be considered as default 0.95 in accordance with section 8.3 of VMR0006/7/.

The equation stated under section 4.4 of the Joint PD and MR/1/ were compared with the applied methodology/7/ and were found to be exactly same. The same equations have been used in the estimated ER sheet/15/ to calculate the estimated ERs for the entire crediting period.

CAR#05, CAR#09 & CAR#10 was raised and resolved.

3.4.7 Methodology Deviations

A Deviation was applied during the implementation of the Project activity during its first monitoring period. According to the section 9.2 of methodology, both the parameters $N_{y,i}$ & μ_y needed to be monitored once in every two years and parameter $\eta_{\text{new},i,y}$ has a monitoring frequency of 1 year.

Monitoring for Grouped Project PAI 1&2 could not be conducted in 2019-2020 period due to the following reasons:

1. Lack of funds with the previous stakeholder acting as CPA implementer to continue with the monitoring in 2019 and 2020
2. Due to Outbreak of COVID-19, there were restrictions in conducting any site activities.
3. The uncertainty on the CDM PoA 9626 future given that CDM had no mandate to operate beyond 31/12/2020 was also a reason from PP for not maintaining the monitoring frequency.

Because of the above reasons, the monitoring surveys were conducted in 2021 (between 10/06/2021 and 31/11/2021). Due to the delay in conducting the monitoring surveys, conservative parameter values obtained from the 2021 surveys were applied by the PP to the previous years (2019-2020) as the operability and usage of ICS are expected to decline and not increase with the passage of time. As the project activity is applying all the possible conservative and reliable factors for periods that could not be monitored, PP seeks deviation to be of acceptable level of precision and conservative for the monitoring period.

This was also cross checked with the CDM M.P.-3 monitoring report/49/, and the verification report/50/, where it is clear that the usage rates of the project ICS were 66.43% & 85.48% (monitored in 2018) for PAI-1 & PAI-2 respectively. Therefore, the parameter values obtained for the monitored parameters from the surveys conducted in 2021 are lower, hence conservative than the previous years of their usage.

3.4.8 Monitoring Plan

The monitoring plan covers:

1. Maintenance of database:
 - The database shall include the following:
 - Unique project identification number
 - Installation date
 - Family name
 - Contact details of user (when available)
 - Socioeconomic level (if households or communities are targeted), or type of establishment (if SMEs are targeted)
 - Baseline cooking fuel source
 - Baseline stove type
 - Date of replacement of cook stove
 - Monitored parameters
 - Usage of Skirt with the project ICS

2. The roles and responsibilities of the parties involved is described in line with the VCS standard.
3. The PP has various quality control measures in place like training staff to conduct surveys, trained supervisors conduct spot check on surveyor results, all information related to parameters are collected on phone-based application/forms, surveys results are tagged as valid or invalid based on the duration of surveys, data validation done by PP.
4. Trainings are conducted on various topics distribution plan, surveys etc. and records for the same is maintained,
5. Calculation of ERs is done on the basis of latest results by PP's team.
6. Joint PD & MR/1/ has been reviewed to check that the procedure for data uncertainty, emergency preparedness, roles and responsibility, operational and management structure are mentioned in the Joint PD & MR. The monitoring plan completely describes all measures to be implemented for monitoring all parameters required.
7. Sampling Plan:

Sampling plan is made according to the CDM Standard 'Sampling and surveys for CDM project activities and programmes of activities'/14/, and CDM Guidelines: Sampling and Survey for CDM project activities and programmes of activities/13/ to estimate monitored parameter values used in the ER calculations.

The target population will be the end users listed in the database on which random sampling will be applied.

The sample size equations stated in the Joint PD and MR/1/ were checked and found consistent with CDM Guidelines: Sampling and Survey for CDM project activities and programmes of activities, version 4/13/

The sampling frames may include individual PAI or group of PAIs. The PP will apply a 90/10 confidence/precision for individual PAIs on an annual basis, or 95/10 confidence/precision basis on a biennial basis. If sampling is done for groups of PAIs, then 95/10 all be applied in line with CDM Standard Sampling and surveys for CDM project activities and programmes of activities, version 9/14/.

The monitoring plan included in the section 5.3 of the Joint PD & MR /1/ is based on the applied methodology /7/ which has been applied to the proposed VCS project activity

The monitoring arrangements described in the monitoring plan are feasible within the project design.

3.5 Non-Permanence Risk Analysis

This is not applicable for the proposed VCS project as it is Non AFOLU project.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

The project activity distributed project ICS under two different PAIs. PAI-1 includes 100,567 stoves between Sept-Dec 2014, while PAI-2 includes 195,227 stoves distributed between Jan-Dec 2016 and a total of 2,95,794 stoves installed for this project. The current monitoring period covers all these stoves. EcoZoom Dura ICS model was distributed under PAI-1 (Group – 1) & PAI-2 (Group – 2). The working condition of the stoves has been verified during the on-site visit and found in the operational condition in-line with the information provided within the monitoring surveys. The assessment team has confirmed that stoves are working fine.

The assessment team has checked the procedures being followed by PP on site during the on-site visit, interviewed the end-users, and can confirm that project has been implemented as planned and as mentioned in the registered VCS PD-MR, CDM PoA-DD, CDM CPA-DDs from the records available and the survey samples.

The assessment team has conducted the desk review and the remote site visit of the project activity, through which it can be confirmed that the project has not received any other form of environmental credit for the project. The project activity was implemented as described in the revised VCS PD-MR/1/ and no material discrepancy was identified between the project implementation and the project description.

4.2 Accuracy of GHG Emission Reduction and Removal Calculations

A. Data and parameters available at the time of validation are same as listed above under section 3.4.6. of this report

B. Data/parameter monitored for Improved Cookstove for PAI 1 and PAI 2 under MP1:

S.No.	Parameter	Monitoring frequency	Means of assessment												
1.	$N_{y,i,j}$	At least once every two years	The parameter represents number of project devices of type i and batch j operating during year y. The data is sourced from database/29/ and monitoring surveys /16/17/. <table><tr><td></td><td>Stoves distributed</td><td>Operational rate</td></tr><tr><td>PAI-1</td><td>100,567</td><td>98.51%</td></tr><tr><td>PAI-2</td><td>195,227</td><td>99.04%</td></tr><tr><td>Total</td><td>295,794</td><td></td></tr></table> The value for PAI 1 operation stove number is 99,068 and PAI 2 is 193,352, giving a total of 292,420 Cookstoves. The parameter could not be check for the operational units for the period 2019-2020, due to lack of financial resources with the		Stoves distributed	Operational rate	PAI-1	100,567	98.51%	PAI-2	195,227	99.04%	Total	295,794	
	Stoves distributed	Operational rate													
PAI-1	100,567	98.51%													
PAI-2	195,227	99.04%													
Total	295,794														

			previous owner of the project technology (CDM CPA Implementer), and the COVID-19 outbreak that followed in 2020. This led PP to conduct the monitoring specific to each PAI-1 and PAI-2 in 2021, when the COVID-19 restrictions were lifted. However, CAR07 was raised to check for the degree of conservativeness for the value applied to the monitoring period. PP has asserted that the parameter value obtained is lower than the previous years. This holds true when comparing the operational check of project device for any year of operation. The parameter value expected for the later years of operation shall have to be lower than the earlier years of operation. This is because the events of loss, damage to the ICS, etc. increase with the passage of time. This means that the values applied are conservative, and since monitoring could not be conducted in 2019 – 2020 due to operational reasons followed by COVID-19 restrictions, 2021 values are considered as valid for the whole monitoring period. The degree of conservativeness can be ascertained
2.	η_{old}	Fixed for each individual household at first HH visit	The parameter represents efficiency of baseline stove. The value of the parameter considered is 0.1026 determined from baseline efficiency sheet/39/ according to applied methodology /7/. The value is consistently applied and reported between ER sheet/15/ and Joint PD and MR/1/. The monitoring samples checked by VVB at the time of on-site visit also were questioned on the baseline device that was available, and

			all the responses were checked with the available information in the monitoring surveys/16/,/17/. This was checked on-site/22/ and found as sufficiently following the requirements.												
3.	$\eta_{new,i,j}$	Annually	The parameter represents the efficiency of the device of each type i and batch j. The efficiency of the distributed cookstove will be monitored each year. The value of the parameter: <table border="1"> <thead> <tr> <th>PAI</th><th>2019</th><th>2020</th><th>2021</th></tr> </thead> <tbody> <tr> <td>PAI-1</td><td>40.54%</td><td>40.13%</td><td>39.7%</td></tr> <tr> <td>PAI-2</td><td>36.93%</td><td>36.56%</td><td>36.2%</td></tr> </tbody> </table> The calculated values obtained for PAI-1 & PAI-2 are: PAI-1: 0.3924 or 39.24% PAI-2: 0.4024 or 40.24% The value is determined through 1% decrease in efficiency every year which is according to the applied methodology /7/.	PAI	2019	2020	2021	PAI-1	40.54%	40.13%	39.7%	PAI-2	36.93%	36.56%	36.2%
PAI	2019	2020	2021												
PAI-1	40.54%	40.13%	39.7%												
PAI-2	36.93%	36.56%	36.2%												
4.	μ_y	Atleast once every two years	This parameter represents the adjustment to account for any continued use of pre-project devices during the year y. The value used for PAI-1 is 0.511 and PAI-2 is 0.516. The values have been taken from the usage surveys/16/,/17/. The values applied are conservative, as CAR07 was raised to understand the degree of conservativeness applied by PP while applying the parameter values obtained from 2021 surveys. CDM M.P.-3 monitoring report/49/, and verification report/50/ were reviewed to check the argument made by PP in justifying the conservative approach while applying 2021 usage values to 2019 & 2020 vinatges of the monitoring period, and was found as												

			acceptable, and sufficiently fulfilling the methodological/7/ requirements.
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In conclusion, VVB reviewed all the evidence submitted by PP related to GHG emission reduction calculations and confirmed that all the parameters are correctly applied. Default values used in the calculation were identified correctly. The emission reduction calculation has been done in line with the applied methodology /7/.

Monitoring Plan for PAI 1 and PAI 2 for current MP:

For the current monitoring, PP had calculated the sample size as per the CDM standard requirements/13/,/14/, and covered the following sample size: PAI-1 – 335 and PAI-2 – 415. The frequency of the monitoring was not followed by PP due to lack of funds on 2019 and COVID restrictions in 2020. The monitoring surveys were finally conducted in 2021 (10/06/2021 and 31/11/2021). The PP has sought deviation which is assessed in detail under section 3.4.7. of this report.

The monitoring plan included in the section 5.3 of the Joint PD & MR /1/ is based on the applied methodology /7/ which has been applied to the proposed VCS project activity.

The assessment team has checked the sample calculation as per the Guideline: “Sampling and Survey for CDM project activities and programme of activities” version 04/13/ and found out that the calculation of confidence/precision is consistent as per the monitoring plan.

CAR#06, CAR#07, CAR#09 and CAR#10 were raised and resolved.

4.3 Quality of Evidence to Determine GHG Emission Reductions and Removals

The assessment team confirms that the calculation and data is authentic. The quality of supporting documents submitted for validation and verification are adequate. The assessment team has checked the quality and maintenance of the supporting documents during the on-site visit to confirm the authenticity of the documents and to check the appropriate calculations. The assessment team confirms that the proper evidence is available for the whole monitoring period and the same is verifiable and the data collection system meets the requirement of the monitoring plan and the applied methodology according to the assessment carried out.

The assessment team confirms the quality of evidence to determine the GHG reductions are satisfactory and the detailed information regarding the roles and responsibilities have been provided in the Joint PD-MR/1/.

5 VALIDATION AND VERIFICATION CONCLUSION

Earthood Services Private Limited, contracted by DelAgua Health Rwanda (Voluntary) Limited (PP), has performed the independent joint validation & verification of the project activity “DelAgua Clean Cooking Grouped Project”. The PP is responsible for the information about the implementation of the project activity.

ESPL commenced the joint validation & verification based on the baseline and monitoring methodology VMR0006, version 1.1/7/ and draft VCS-PD & MR and ERs estimated spreadsheet/15/.

ESPL's validation approach is based on the understanding of the risks associated with reporting the project activity, estimates of GHG emission data and the controls to be implemented to mitigate these. ESPL planned and performed the validation and verification by obtaining evidence, site visit, other information, and explanations that ESPL considered necessary to give reasonable assurance that the estimated GHG emission reductions are fairly to be achieved.

VVB confirms that:

- the project activity is in accordance with all relevant host country criteria (India) and VCS rules and requirements.
- the project activity is in accordance with all conditions of the latest version of applied methodology.
- the local stakeholders' consultation has been performed in accordance with host country and VCS requirements.
- the environmental assessment is appropriate and sufficient.
- the monitoring plan is transparent and adequate.
- all information has been consistently applied in the VCS-PD-MR.
- the implementation of the project has been done as per description in the VCS-PD-MR.

Quantity of GHG emission reductions or removals in tCO₂ equivalents are estimated to be 2,408,517 throughout the crediting period and 344,074 is the annual average reduced ERs.

Quantity of GHG emission reductions or removals in tCO₂ equivalent achieved by the project during the verification period is as follows:

Verification period: from 01/01/2019 to 14/09/2021

Verified GHG emission reductions and removals in the above verification period:

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)
01/01/2019 – 31/12/2019	889,786	0	0	889,786
01/01/2020 – 31/12/2020	892,224	0	0	892,224
01/01/2021 – 14/09/2021	626,507	0	0	626,507
Total	2,408,517	0	0	2,408,517

Approved by



Dr. Kaviraj Singh

Managing Director

Earthood Services Private Limited

Date: 24/01/2023

Place: Gurgaon, Haryana

APPENDIX I: LIST OF DOCUMENTS REFERRED

S.No.	Title of document	Version	Date
1	VCS PD & MR	3.0	12/01/2023
2	VCS Program guide	4.1	-
3	VCS Standard	4.3	-
4	VCS VVB Manual	3.2	-
5	CDM PS for PA	3.0	-
6	CDM VVS for PA	3.0	-
7	VMR0006 Methodology for Installation of High Efficiency Firewood Cookstoves	1.1	-
8	General Guidelines and Procedure for Environmental Impact Assessment, Republic of Rwanda	-	-
9	Tool 1 Tool for the demonstration and assessment of additionality	7.0	-
10	Collaboration agreements between PP and JADF	-	-
11	Tool 21 Demonstration of additionality of small-scale project activities	13.1	-
12	Tool 30 Calculation of the fraction of non-renewable biomass	3.0	-
13	CDM Guidelines Sampling and surveys of CDM project activities and programmes of activities	4.0	-
14	CDM Standard Sampling and surveys for CDM project activities and programmes of activities	9.0	-
15	Emission Reduction calculation sheet	2.3	-
16	Monitoring survey database for group 1/ PAI 1	-	-
17	Monitoring survey database for group 2/ PAI 2	-	-
18	Excel sheet of sample size calculation for PAI 1	-	-

19	Excel sheet of sample size calculation for PAI 2	-	-
20	Project 2749 webpage – Delagua Clean Cooking Grouped Project https://registry.terra.org/app/projectDetail/VCS/2749	-	Last accessed on 21/04/2022
21	Manufacturer’s specification- Dura stove Burn Kurnikoa	-	-
22	Site visit documents	-	-
23	Voluntary project attestation by PP	-	02/04/2022
24	EIA clearance but of IWS and ICS 2015 date	-	-
25	End user agreements	-	-
26	MoU signed between PP and Government of Rwanda	-	-
27	Survey records and database	-	-
28	Signed Distribution agreement	-	-
29	Household database (2) PAI 1 PAI 2	-	-
30	Certification of EcoZoom Dura lifetime cookstove issued by Rwanda Standard Board (RSB)	-	18/01/2022
31	EIA Guidelines	-	November 2006
32	Certification of product specifications, certified by the Centre for Research in Energy and Energy Conservation (CREEC) lab	-	-
33	IPCC values	-	2006
34	Deed of Transfer of Greenhouse Gas Emission Rights of Improved Cooking Stoves	-	23/04/2021
35	Manufacturer’s agreement	-	-
36	Start date clarification from VERRA	-	-

37	The transition from cooking with charcoal to LPG https://irpj.euclid.int/articles/the-transition-from-cooking-with-charcoal-to-lpg-gas-in-rwanda-2018-2024/#:~:text=For%20centuries%2C%20the%20Rwandan%20population,problem%20started%20with%20rapid%20deforestation	-	Last accessed on 20/06/2022
38	TREES AND WOODLOTS IN RWANDA AND THEIR ROLE IN FUELWOOD SUPPLY- Jean Damascene Ndayambaje The usage of firewood as fuel for cooking in years prior to 1989 is mentioned at multiple instances within the research thesis, alongwith the relevant references. https://edepot.wur.nl/272116	-	Last accessed on 20/06/2022
39	Baseline stove- efficiency	-	Last accessed on 20/06/2022
40	CDM Validation Report	4.4	12/06/2020
41	http://www.reg.rw/what-we-do/biomass/	-	Last accessed on 20/06/2022
42	https://www.mininfra.gov.rw/digital-transformation-1-1	-	Last accessed on 20/06/2022
43	https://www.statistics.gov.rw/publication/eicv-5-main-indicators-report-201617	-	Last accessed on 20/06/2022
44	Baseline KPT survey sheet KPT calculation excel sheet	-	-
45	https://registry.goldstandard.org/projects/details/3088	-	Last accessed on 20/06/2022
46	Tool 30: calculation of f_{NRB}	3.0	14 December 2020
47	Exemption Approval Letter	-	Submitted to Verra: 14/12/2022 Approved on 22/12/2022

48	Requests for Issuance and related documentation under CDM https://cdm.unfccc.int/ProgrammeOfActivities/poa_db/RV/UJL2DMZ7HBKC1PEG408NA0WSI6TX/view?cp=1	-	-
49	CDM PoA 9626 MP-3 Monitoring Report	2.4	06/08/2020
50	CDM PoA 9626 MP-3 Verification & Certification Report	2.0	07/08/2020
51	KML Files shared by PP for the districts where distribution has taken place under PAI-1 & PAI-2	-	-

APPENDIX II: ABBREVIATIONS

Abbreviations	Full texts
BE	Baseline Emission
BM	Build Margin
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CL	Clarification Request
CM	Combined Margin
CO2	Carbon di oxide
CP	Crediting Period
DR	Desk Review
EB	Executive Board
EF	Emission Factor
ER	External Resource
EIA	Environmental Impact Assessment
ESPL	Earthood Services Private Limited
FAR	Forward Action Request
GHG	Green House Gas
GP	Grouped Project Activity
ICS	Improved Cook Stoves
IRR	Internal Rate of Return

MoU	Memorandum of Understanding
MWh	Mega Watt Hour
MR	Monitoring Report
PAI	Project Activity Instance
PD	Project Description
PP	Project Proponent
DHRVL	DelAgua Health Rwanda (Voluntary) Limited
tCO _{2e}	Tonnes of Carbon di oxide equivalent
TA	Technical Area
TR	Technical Reviewer
UNFCCC	United Nations Framework Convention on Climate Change
VCS	Verified Carbon Standard
VCU	Verified Carbon Units
VVB	Validation and Verification Body

APPENDIX III: COMPETENCE OF TEAM MEMBERS AND TECHNICAL REVIEWERS

Competence Statement	
Name	Deepika Mahala
Country	India
Education	M. Sc. (Environment Management), GGSIP University B.Sc. Hons. (Chemistry), Sri Venkateshwar College, DU
Experience	6 Years +
Field	Climate Change
Approved Roles	
Team Leader	YES
Validator	YES
Verifier	YES
Methodology Expert	ACM0002, AMS.I.D., AMS.I.A, AMS.III.AV, AMS.II.G, AMS-II.C
Local expert	YES (India, Bangladesh)
Financial Expert	NO
Technical Reviewer	YES
TA Expert	YES (TA 1.2 & TA 3.1)

Reviewed by	Shifali Guleria (QM)	Date	28/04/2022
Approved by	Kaviraj Singh (MD)	Date	28/04/2022

Competence Statement			
Name	Shifali Guleria		
Education	M.Sc. (Environmental Studies and Resource Management), TERI University		
Experience	3+ year		
Field	Climate Change		
Approved Roles			
Team Leader	YES		
Validator	YES		
Verifier	YES		
Methodology Expert	YES (AMS-I.A., AMS-II.G., AMS-II.E., AMS-III.A.V., AMS-I.D, ACM0002)		
Local expert	YES		
Financial Expert	NO		
Technical Reviewer	YES		
TA Expert	YES (1.2, 3.1)		
Reviewed by	Deepika Mahala	Date	16/02/2022
Approved by	Ashok Gautam	Date	18/02/2022

Competence Statement			
Name	Riya Sharma		
Education	M.Sc. Biodiversity & Conservation		
Experience			
Field	Climate Change & Environment		
Approved Roles			
Team Leader	NO		
Validator	NO		
Verifier	NO		
Methodology Expert	NO		
Local expert	NO		
Financial Expert	NO		
Technical Reviewer	NO		
TA Expert (X.X)	NO		
Trainee	YES		
Reviewed by	Deepika Mahala (Quality Manager)	Date	19/08/2021
Approved by	Ashok Gautam (Technical Manager)	Date	25/08/2021

Competence Statement			
Name	Olivier Uwimana		
Education	Bachelor’s in Applied Mathematics		
Experience	4+ years		
Field	Statistics		
Approved Roles			
Team Leader	No		
Validator	No		
Verifier	No		
Methodology Expert	No		
Local expert	Yes (Rwanda)		
Financial Expert	No		
Technical Reviewer	No		
TA Expert	No		
Reviewed by	Shreya Garg	Date	19/08/2019
Approved by	Anshika Gupta	Date	19/08/2019

Competence Statement			
Name	Shreya Garg		
Country	India		
Education	M.Sc. (Climate Science & Policy), TERI University		
Experience	6 Years +		
Field	Climate Change		
Approved Roles			
Team Leader	YES		
Validator	YES		
Verifier	YES		
Methodology Expert	AMS.I.A., AMS.I.C., AMS.I.D., AMS.I.F., AMS.II.D., AMS.II.G., AMS.II.J., AMS.III.AV., AMS.III.BL, ACM0002, ACM0012		
Local expert	YES (India)		
Financial Expert	NO		
Technical Reviewer	YES		
TA Expert	YES (TA 1.2, TA 3.1)		
Reviewed by	Shifali Guleria	Date	26/04/2022
Approved by	Deepika Mahala	Date	26/04/2022

Competence Statement

Name	Vishnu S Panicker		
Education	M.Sc (Sustainable Development and Environment Management) B.Sc (Forestry)		
Experience			
Field	Forestry and environment		
Approved Roles			
Team Leader	NO		
Validator	NO		
Verifier	NO		
Methodology Expert	NO		
Local expert	NO		
Financial Expert	NO		
Technical Reviewer	NO		
TA Expert (X.X)	NO		
Trainee	YES		
Reviewed by	Deepika Mahala (Quality Manager)	Date	08/09/2021
Approved by	Ashok Gautam (Technical Manager)	Date	17/09/2021

APPENDIX IV: LIST OF FINDINGS

CAR: Corrective Action Request

CL: Clarification Request

FAR: Forward Action Request

Table 1. Remaining FAR from validation and/or previous verification

FAR ID	NA	Section no.	NA	Date : DD/MM/YYYY
Description of FAR				
NA				
Project participant response				Date : DD/MM/YYYY
NA				
Documentation provided by project participant				
NA				
DOE assessment				Date: DD/MM/YYYY
NA				

Table 2. CL from this verification

CL ID	01	Section no.	3.1	Date : 24/04/2022
Description of CL				

Section 1.15.1 of Joint PD and MR

The PAIs were part of CDM program. However, no information related to it has been added. The following applies with respect to projects registered under an approved GHG program:

For projects registered under the CDM, the cover page and sections 1.1, 1.2, 1.3, 1.5, 1.6, 1.7, 1.8, 1.9, 1.10, 1.12, 1.13, 1.14, 1.15.1, 1.16, 1.17, 1.18 and 3.6 of the *VCS Project*. A validation/verification body shall undertake a validation of same, which shall be accompanied by a validation representation, to provide a gap validation for the project's compliance with the VCS Program rules.

It is not clear why this request has not been considered as GAP validation?

As per para 3.20.2. of VCS standard, Projects registered under other GHG programs are not eligible for VCU issuance beyond the end of the total project crediting period under those programs (see Section 3.8.7 for further information).

para 3.30.3 of VCS standard, the project start date for such projects is the date on which the first activity under the program of activities began reducing or removing GHG emissions.

3.20.3. point 4, Validation shall be completed within the relevant project start date deadline, as set out in Section 3.20 (in this case, validation refers to validation of the first CPA under the associated PoA).

Project participant response

Date : 27/05/2022

1. The relevant information on the CDM context is added to the Section 1.15.1 of the Joint PD&MR. VVB may check it if that's sufficient from the requirements point.

2. The VCS grouped project activity is a different arrangement as compared to the transfer of the CDM PoA 9626 CPAs into the proposed VCS Grouped Project (GP). There are no CPA transfers as such. Also, the scope for the possibility of such arrangement was confirmed from VCS, based on PP's pre-validation communication with them. PP (DelAgua Health Rwanda Voluntary Limited, or simply DelAgua) only went ahead with the approach of transfer of the rights to utilize the only financial instrument available for the continued operation of the proposed VCS project activity, post written confirmation from VCS, whereby they are stating that there should be no conflicts of Interests between the parties involved. The financial instrument that was transferred between the parties CDM PoA PP and the VCS PP is the GHG Emission Reduction rights. The date from which the transfer is effective is 01/01/2019. This information is also elaborated in the Joint PD&MR, wherever required. Based on this, the request for joint Validation and Verification was not considered as a Gap Validation.

3. The VCS Standard Ver. 4.2, Paras 3.20.2 & 3.8.7 discuss on the total eligible crediting period for a proposed VCS project activity that was already registered under other GHG programs. This does not apply to the ICS that were distributed under CDM PoA CPAs 01-17, since these technologies have an operational lifetime of 7 years. These are incorporated for crediting under PAI-1 & 2. The maximum crediting life for the ICS units that were under CDM PoA 9626 is 2023 (for PAI-2 ICS), and therefore, in no way, VCS grouped project activity 2749 is surpassing the maximum crediting period duration that was applicable to the ICS under CDM. Post 2023, PAI-1 & 2 will not request any crediting of VCUs. Therefore, this finding is deemed irrelevant by PP. PP requests VVB to close this finding, as it does not relate to this grouped project activity.

4. The VCS Grouped Project activity crediting period start date is 01/01/2019, as it is the first date from which the ICS began reducing GHG emissions for the new owner, PP (DHRV Limited). The VCS crediting is applicable for the PAI-1 & 2 on retroactive basis. The retroactive period for crediting is in-line with the VCS requirements while applying a new VCS approved methodology (i.e., considering a period of 4 years prior to the 2 years from the methodology approval date). In this case, the methodology approval date is 08-September-2020, and therefore, 2 years from the methodology approval date is 08-September-2022. The grouped project is only requesting retroactive crediting from 01-January-2019, which is within the 4-year retroactive boundary of the validation deadline while applying a newly approved VCS methodology.

5. Since the grouped project is applying a new VCS approved methodology, the retroactive crediting is applicable to a maximum of 4 years before the date of submission of the REGISTRATION request under VCS, but no later than the 2 years from the methodology approval date. In this case, the VCS submission for registration request shall be submitted for retroactive crediting before 08-September-2022. The grouped project activity 2749 does not have any connection with the CDM PoA 9626, and therefore, no clauses related to the migration of CDM CPA into VCS shall be applicable here. This finding request closure from VVB.

Documentation provided by project participant

NA

DOE assessment

Date: 02/06/2022

The information under section 1.15.1 was found to be sufficient and the retroactive period since the projected date of submission is acceptable.

However following points are open:

1. PP shall submit incorporation letter of DelAgua Health Rwanda Voluntary Limited.
2. It is not clear why it is stated that the first date from which the ICS began reducing GHG emissions for 01/01/2019 while the stoves disseminated in 2014 and 2016 clearly began reducing GHG emissions in 2014 and 2016 respectively. Open.

Project start date is mentioned in Joint PD and MR is 01/01/2019. The VCS standard says that the start date is date the project starts reducing the GHG emissions.

Moreover, as per the clarification received from VERRA regarding the start date,

<https://verra.org/wp-content/uploads/2022/04/VCS-Program-Clarifications-19-April-2022-rev.pdf>

Clarification 2: Start Date • The date on which the project began generating GHG emission reductions or removals; equal to “Project Crediting Period Start Date”, Also referred to as “Project Start Date”.

Thus, the finding is open.

Project participant response

Date : 03/06/2022

1. The incorporation letter of DHRV Limited is shared with VVB.
2. The project activity Start Date is accepted by VCS during the mail request made by the PP, where clarity was sought by PP on the approach it is going to take for the VCS project activity registration. VCS acknowledged that, and both the approach and the Start Date was deemed accepted in this specific case. The relevant information on the project activity operations was shared with VCS in the mail, and VCS is

already aware that the ICS started operation via 2 distribution batches, in 2014 & 2016 respectively. If VCS is aware of the project activity's ground realities, and is allowing this as an exceptional case, VVB must accept it without any prejudice on the Start Date definition under other approved GHG programs. The email copy of the VCS confirmation is already shared with the VVB.

Moreover, PP is declaring that since most of the ICS distributed under PAI-1 have already surpassed their lifetime of 7 years, taking a conservative stance, the ICS under PAI-1 will not participate in the Second Monitoring period.

Documentation provided by project participant

NA

DOE assessment

Date: 16/06/2022

The issue with project start date has already been discussed with VCS. Thus, it is being approved on condition that VCS has accepted the definition proposed by the PP.

Thus, the finding is closed.

CL ID	02	Section no.	3.3.2	Date : 24/04/2022
Description of CL				
Section 2.2 of Joint PD and MR As per para 3.17.3 of VCS standard version 4.2, The project proponent shall conduct a local stakeholder consultation prior to validation as a way to inform the design of the project and maximize participation from stakeholders. Such consultations allow stakeholders to evaluate impacts, raise concerns about potential negative impacts and provide input on the project design. PP has added information related to memorandum but nothing about the local stakeholder meeting being conducted, which is requirement of the standard It is not clear if PP is considering the CDM LSC for this project or not. PP shall explain why no new LSC has been conducted, considering that the project involves distribution of new PAIs like solar Lamps and the new models of ICS.				
Project participant response				Date : 27/05/2022
The LSC requirements set under the VCS Standard ver. 4.2 are being adhered by the PAI-1 & 2, as they went through LSC process based on CDM requirements, which are similar in terms of their communication with the local stakeholders prior to the project's actual implementation. For any PAI that will be added to the GP, the LSC procedures that will be followed are laid down. Since the GP is working in close coordination with the Government of Rwanda (GoR), conducting a meeting with the local stakeholders prior to the project's actual implementation lies in the jurisdiction of the district government. The district government holds a Joint Action Development Forum (JADF) meeting whenever there is a new project activity is being implemented in the project location (the applicable district). However, PP will record the key discussions that will be made in the context of the distribution of ICS by PP, and at the same time, will request access to the JADF meeting minutes from the district government. There have been 2 districts for which the JADF meetings were held for distribution of ICS under the new PAIs. PP is sharing the meeting minutes and photographs that were taken at those JADF meetings with the VVB.				

The detailed approach undertaken for the JADF, in-line with the district government requirements, is already communicated to VCS. The mail copy of the same is being shared with the VVB.	
Documentation provided by project participant	
-	
DOE assessment	Date: 02/06/2022
It is not clear how local stakeholders' participants were involved in JADF meeting and how they were informed, and their comments were taken under consideration? Open	
Project participant response	Date : 03/06/2022
The JADF meeting document was requested from the district government which hosted the most recent JADF meeting. The meeting was attended by PP representative Ms. Monica Keza, Country Director. The district government has shared the meeting discussion and attendance of the representatives. Also, the Collaboration Agreement that is signed between the PP & District Government is shared with the VVB. The relevant section in the PD&MR ver. 2.2 is elaborated further to add the missing points on JADF meeting.	
Documentation provided by project participant	
NA	
DOE assessment	Date: 16/06/2022
Justification was accepted as PP has demonstrated that JADF meetings are equivalent to LSC meetings in which district governments is involved directly. Thus, the finding is closed.	

Table 3. CAR from this verification

CAR ID	01	Section no.	3.1	Date : 24/04/2022
Description of CAR				
1. PP shall use the latest template available on the VCS website. Moreover, the Joint PD and MR refers to old version of VCS standard at various pages. For eg page 7, section 1.3. 2. Section 1.12 of Joint PD and MR As per para 3.5.8. and 3.5.19 point 1 of VCS standard version 4.2., Grouped projects shall have one or more clearly defined geographic areas within which project activity instances may be developed. Such geographic areas shall be defined using geodetic polygons 3. Section 1.17 of Joint PD and MR SDG names and indicators have not been mentioned and Table 1 has been omitted.				
Project participant response				Date : 27/05/2022
1. The latest version of the VCS Joint PD & MR is now being used for the PD&MR. 2. In order to fulfil the Section 1.12 requirements, KML files of the districts are being shared with the VVB. 3. SDG requirements are now added to the PD&MR in the relevant section (Section 1.17).				

Documentation provided by project participant	
ONA	
DOE assessment	Date: 01/06/2022
1. Latest template has been used for preparation of joint PD and MR now. Closed. 2. KML file could not be found in the response folder. Open 3. SDG names and indicators have been added under section 1.17 along with table 1 of the template. Closed.	
Project participant response	Date : 03/06/2022
2. KML files are shared with the VVB. This finding is requesting closure now.	
Documentation provided by project participant	
-	
DOE assessment	Date: 16/06/2022
KML have been provide by the PP. Thus, the finding is closed.	

CAR ID	02	Section no.	3.1	Date : 24/04/2022
Description of CAR				
Section 1.4 of Joint PD and MR, 1. For ICS: The eligibility criteria do not cover the conditions under para 3.5.16 of the VCS standard version 4.2. which states the requirements for inclusion of new project activity instances 2. For solar Lamps: a. Why eligibility criteria have no. 2,3,4,5, and capacity limit condition in line with para 3.5.15. and 3.5.14 have not been added for project instance 2-solar lights? b. Paras 5, 9, 10 of applied methodology are not mentioned or demonstrated. c. Paras 7 and 8 are not consistent with the applied methodology and demonstrated completely.				
Project participant response				Date : 27/05/2022
1. The requirements stated under Para 3.5.16 of the VCS Standard ver. 4.2 are incorporated in the Joint PD&MR ver. 2.1. 2. The SLS part of the GP is now removed from the PD&MR, as PP is not intending to keep the SLS distribution under the program.				
Documentation provided by project participant				
NA				
DOE assessment				Date: 01/06/2022
1. Para 3.5.16. regarding inclusion of new project activity instance have been demonstrated to be fulfilled in revised PD and MR. closed. 2. SLS has been removed from the joint PD and MR. closed. Thus, the finding is closed.				

CAR ID	03	Section no.	3.1	Date : 24/04/2022
Description of CAR				
Section 1.8 of Joint PD and MR Project start date is mentioned as 01/01/2019. It is not clear how the start date of the project has been determined. The stoves are being claimed from 2019 however, the stoves were distributed since 2014 and started generation of GHG reduction since then. Moreover, PP shall demonstrate how the condition of validation to be completed within 4 years of project start date of a project applying new VCS methodology has been followed.				
Project participant response				Date : 27/05/2022
Below discussion and timeline provided therein will act as supporting towards the VCS project start date. This is added to Section 1.8 of the Joint PD&MR. The start date for this Grouped Project is 01/01/2019. This is the first date that improved cookstoves first began generating GHG reductions under this project. This project is applying a new VCS methodology, and therefore the project start date is set according to section 3.7.1 of the VCS Standard ver. 4.2. The ICS under the GP were distributed in 2014 (PAI – 1) & 2016 (PAI – 2). Retroactive crediting for these PAIs is being requested under this joint PD & MR document. The important dates related to the project timeline are provided below. i) 07/09/2014 – Distribution of first batch of PAI-1 (Group 1) ICS took place ii) 03/03/2016 – Distribution of first batch of PAI-2 (Group 2) ICS took place iii) 31/12/2018 – Last date of issuance of credits for ICS units distributed under the CDM PoA iv) 01/01/2019 – The rights for the GHG emission reduction units generated by the ICS distributed under the CDM PoA 9626 CPAs (01 to 17) are sold to a different entity DHRV Limited, that does not have any communication rights or relations with the CDM PoA v) 01/01/2019 – The VCS Grouped Project 2749 starts crediting retroactively, with the first date of operation of ICS under DHRV Limited vi) 24/11/2021 – The VCS Grouped Project Joint PD & MR document was uploaded on VCS web for publication by PP DHRV Limited vii) 17/03/2022 – The VCS Grouped Project published on registry for public comment for a period of 30 days viii) 21/04/2022 – VCS informed PP that the public comment period for VCS Grouped Project 2749 is over and no comments were received during this period Apart from the above, the whole information on the VCS grouped project start date was shared with VCS for their approval, to which they found as acceptable, subject to the VVB verification of the documentary evidence.				

The email communication of the same is shared with the VVB, and the GHG ER transfer deed between the parties is being shared under this round of findings response.

Documentation provided by project participant

-

DOE assessment

Date: 02/06/2022

The email communication provided conditional statement which is “Regarding the start date, the start date of the project is the date on which emission reductions or removal resulting from the project begin. Thus, if the stoves started operating on 1 Jan 2019, you can register the new project with this start date.”

Project distributed in 2014 cannot be said to start operation in Jan 1, 2019.

The mail did not say that transfer of ownership shall be considered as the date of project start, disregarding the actual start date of the first installation which is 2014.

Justification provided was found not acceptable. CAR#03 is open

Project participant response

Date : 03/06/2022

The mail outrightly mentions the acceptance of the PP’s request for considerations made on the start date, and that was the exact basis for moving forward with this project activity, considering the fact that VCS has acknowledged and accepted the approach and the “Project Crediting Period Start Date”, which is now the same as the VCS “Project Activity Start Date” (as referred in the VCS Clarification released on 19-April-2022).

The VCS Project Activity Start Date definition is flexible, as far as the first date of the emission reduction is concerned. Under other approved GHG programs, the start date is the date from which the distribution/installation of first unit takes place. Under VCS, the project activity start date is the date from which the project unit start generation of emission reduction. In this case, the first date of operation of project technologies under the newly appointed entity and the first retroactive date proposed under VCS (from which it starts the emission reduction) are both 01-January-2019. The approach is not leading to any double counting, not expecting any GHG Emission Reduction for the units which have surpassed their operational lifetime, and not even involves any fraudulent crediting.

The only reason why PP is requesting the retroactive crediting of these units is that the element of Carbon Finance was planned prior to the distribution of ICS under CDM CPAs 01-17. Now that CDM’s future is uncertain after commitment period – 2 (01-January-2013 – 31-December-2020), the project was left with no viable options for its sustenance and payback of carbon credit commitments made to other entities involved. The program was not ready for continuation under CDM, and that was the reason why the whole arrangement of transfer of GHG Emission Rights between the CDM entity (PP) and the VCS entity (PP) came into existence.

This whole arrangement was first discussed as an approach with VCS, and their approval was sought before moving forward with the request for registration and issuance, considering it is a financial risk for PP amid lack of funds.

When VCS agreed that PP can move forward with the approach of considering this as a fresh project activity and accepted 01-January-2019 as the grouped project activity start date, PP decided to proceed with the Joint request for Registration and Issuance.

This is not violating any VCS rules, requirements, or Standard ver. 4.2 by any means.

Therefore, PP expects that this must be accepted by VVB.

Documentation provided by project participant

NA

DOE assessment

Date: 13/06/2022

The issue with project start date has already been discussed with VCS. Thus, it is being approved on condition that VCS has accepted the definition proposed by the PP.

Thus, the finding is closed.

CAR ID	04	Section no.	3.4.4, 3.4.5	Date :	24/04/2022
Description of CAR					
Section 3.4 of Joint PD and MR 1. For Solar Lamps, it is stated "The project activity involves the introduction of solar lighting systems into households throughout Rwanda. Solar lighting systems replace the main baseline fuel, kerosene." Moreover condition 8 of meth applicability stated on page 32, section 3.2, states "Ensure that the replaced baseline lamps are those that directly consume fossil fuel" As per published paper: Determinants of Home Lighting Fuel Choices in Rwanda: A Discrete Choice Analysis by Fydess Khundi-Mkomba https://www.davidpublisher.com/Public/uploads/Contribute/5f5ec6c47dc1d.pdf "In terms of the Rwandan household energy choice, Table 1 shows that the highest proportion (45.02%) of households used batteries with bulbs as main lighting fuel. This was seconded by kerosene (18.60%), then electricity (18.01%) with solar panels (1.78%) being the lowest on the frequency of use as main primary energy source for lighting. Other fuels such as candles (7.07%) and fuelwood (9.52%) constituted smaller proportions of the total sample. " It is not clear how the baseline of Kerosene lamps valid for the PAI. 2. For ICS: The baseline scenario has been identified as the continuation of the current practice of the preparation of meals, using conventional inefficient stoves. No recent published report has been added to demonstrate how the baseline scenario is applicable 3. Section 3.5 of Joint PD and MR					

As per the applied meth, section 7, step 1, Project proponents must demonstrate regulatory surplus in accordance with the rules and requirements regarding regulatory surplus set out in the latest version of the VCS Standard and ensure that the project is not mandated by any law, statute, or other regulatory framework,	
Project participant response	Date : 27/05/2022
1. The SLS technology is not going to be a part of this Grouped Project activity. Therefore, any references to that would be deemed as invalid, with respect to the latest version of the PD&MR. 2. The references from peer reviewed literature and recently published national/international reports are mentioned in the relevant section of the PD. These are added as footnotes wherever such statements furnishing the baseline practice are made. 3. For demonstration of regulatory surplus, a declaration signed by the project representative (program manager) is being shared with the VVB.	
Documentation provided by project participant	
DOE assessment	Date: 01/06/2022
1. SLS technology has been removed from Joint PD and MR. Closed 2. Under section 3.4 of Joint PD and MR, footnote link 35,37, 38 could not be accessed. Also, there is no link as number 36. Open. 3. The host country regulations were checked, and no mandate related to cookstove dissemination could be found. Moreover, the PP has provided declaration to confirm that project is a voluntary activity. Closed.	
Project participant response	Date : 03/06/2022
2. The footnotes are now revised in the PD&MR ver. 2.2. The number of missing footnotes is due to the Track change (TC) version of the PD&MR document. This is now corrected in the clean version of the PD&MR.	
Documentation provided by project participant	
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DOE assessment	Date: 13/06/2022
The footnotes are active now. Thus, the finding is closed.	

CAR ID	05	Section no.	3.4.6	Date : 24/04/2022
Description of CAR				
Section 4.4 of Joint PD and MR				
1. For solar lamp, equation for BE has not been stated. Please mention equation in line with the applied methodology (equation 3) 2. For ICS: The notations for most of the parameters are inconsistent with the applied methodology in the entire report.				
Project participant response				Date : 27/05/2022
1. The SLS technology is not going to be a part of this Grouped Project activity. Therefore, any references to that would be deemed as invalid, with respect to the latest version of the PD&MR (i.e., ver. 2.1).				

2. The notations are now made consistent with the methodology ver. 1.1, at all the required places in the PD&MR as well as the ER Sheet.	
Documentation provided by project participant	
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DOE assessment	Date: 02/06/2022
1. SLS has been removed from Joint PD and MR. 2. The notation has been revised correctly in the Joint PD and MR The finding is closed.	

CAR ID	06	Section no.	4.2	Date : 24/04/2022
Description of CAR				
Section 5.1 of Joint PD and MR Ex-ante Parameter: 1. Bold: The value of the parameter applied is 11.55kg/HH/day equivalent to 4.2 tonnes/HH/year. With default value 0.5t/per capita/year referred in CPA DD of CDM project and average HH size 4.5 the baseline fuel consumption is 2.5tonnes/HH/year. CDM part of same units has a value of 2.4 tonnes/ HH/year: https://cdm.unfccc.int/filestorage/V/6/Q/V6QFBDI75W8PK9N3SUTME1ALJGR04H/CPA023_CPA%20DD_v4.4.pdf?t=WkF8cmFvYjY3fDCLr_pmFvsnvL8p-pi7Ff15 PP shall justify the value which is double of the other values. 2. Life span of stoves: For Dura stove: 7years have been considered, the manufacturer's specification says 6-7 years based on use. a. why upper limit has been considered? b. the end users were not found to be proper using the stoves. More than 3 discrepancies observed during the SV. 3. fNRB value: The value expired on 20 May 2017 (https://cdm.unfccc.int/DNA/fNRB/index.html). It is not clear why it has been applied				
Project participant response				Date : 27/05/2022
1. The parameter Bold value is based on a baseline KPT survey performed prior to the validation. The KPT surveys were taking care of all the material requirements stated in the VCS Standard ver. 4.2 and followed the confidence: precision requirement of 90/10 for the samples selected. The requirements of KPT protocol version 4.0 were adhered to during the KPT surveys. The sampling considered was multistage, and the users were selected at random. This is elaborated in the Monitoring section (Section 5, Parameter B_{old}) of the PD&MR. Therefore, the applied value of 12.08 kg of woody biomass usage per household per day (not 11.55 kg) is deemed appropriate. The KPT surveys are being shared with the VVB for their review.				

2. The lifespan of the project ICS is being considered as 7 years since it is provided in the manufacturer's specifications. The lifetime provided in the specifications is a range, however, this project activity is completely dependent on the carbon finance, and therefore, cannot afford to forego the 7th year crediting for the ICS. Since the ICS are being monitored for their operationality, usage, and the number of days in operation, PP believes that there are sufficient amount of checks present to calculate the project ICS non-usage. These elements are registered as parameters that are monitored and will be monitored for newly added PAIs too. Therefore, this should not pose as a concern to the crediting of ERs for project ICS units. Revised Manufacturer's Specifications of the applicable ICS model are shared with the VVB.

The lack of continuous usage of the project ICS (as observed by the VVB on-site) in-general may be accounted to the fact that the Validation and Verification site visit by the VVB was performed in the rainy season. During this season, the end-users tend to use the traditional stoves more, since the project ICS works mainly on the firewood as fuel, whereas the wood fuel is wet/moist most of the times. Adding to this, the usage of the project ICS, along with the baseline stove in the project monitoring period is accounted during the monitoring surveys. The 3+ discrepancies observed by VVB are not actually discrepancies but are rather the misreading of PAI-2 ICS as PAI-1. If the records of PAI-2 ICS that were monitored are checked, the information specific to the ICS under question can be traced, and it can be checked that the stoves were already not in use by the end-users. So, the observation made by the VVB, and the information recorded at the time of monitoring surveys is in conformity.

3. f_{NRB} value is now revised. This is the f_{NRB} value validated under another GHG program (GS4GG) by an accredited VVB and approved by GS4GG. The value is calculated by using latest applicable version of Tool-30 of the CDM for calculation of f_{NRB} . This is now elaborated in the PD&MR.

Documentation provided by project participant

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DOE assessment

Date: 02/06/2022

1. The value is determined from Baseline KPT which was validated through acceptance sampling and found to be correct.
2. Lifespan is in line with the manufacturer's specification. The concern of upper limit is addressed through monitoring of usage rate for each group. The rate was found to be very low for stoves in age 6-7 years which has been appropriately used in the calculation. The stoves found not functional were also found to be observed as non-functional in PP's survey. Thus, acceptance sampling applied was found to have 0 discrepancy.
3. f_{NRB} has been calculated using latest Tool 30. The value used in calculation of f_{NRB} were found to consistent with their source.

The finding is open.

Baseline KPT was conducted in 2021. It is not clear how baseline calculated in 2021 is valid for stoves disseminated in 2014 or 2016. Open.

Project participant response

Date : 14/06/2022

The baseline KPT was conducted in 2021. The underlying reasons for the application of 2021 baseline KPT values to the ICS that are seeking VCUs under PAI 1&2 are:

1. The formal decision to go with the VCS registration was taken by PP in 2021, based on the confirmation from VCS on the approach that is being taken for the registration of a new grouped project activity. Prior to that, no decision was taken on the VCS program registration, and there was no clarity on the methodology that is going to be applied. Under such scenario, there was no way PP could invest in conducting a baseline consumption survey.
2. As this is a retroactive crediting, the baseline survey conducted post distribution shall be considered as acceptable.

Documentation provided by project participant

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DOE assessment
Date: 16/06/2022

Justification provided was accepted as the applied methodology and VCS standard allows values to be applied retroactively.

Thus, the finding is closed.

CAR ID	07	Section no.	4.2	Date :	24/04/2022
Description of CAR					
Section 6 of Joint PD and MR: 1. The MR does not have any information about the sampling plan, size applied for the current monitoring period. 2. As per applied meth page 24, In any given year, emission reductions can only be claimed for devices that are demonstrated to be in place and operational. An annual survey must be conducted for sites included in the project to determine the number of cookstoves that remain in operation. The survey must obtain, at minimum, the following: 1. The cookstoves distributed under the project are being used. 2. The project stoves are operational and in good condition 3. Baseline stoves, if any are being used along with project stoves The stoves from 2014 were found to be not in use for more than 1 case out of 18 samples (4 in total) which not acceptable under the acceptance sampling. EZ133500, EZ135604, EZ168681, EZ352953. 3. For parameter $N_{y,i,j}$ It is not clear how the parameter has been monitored with the required frequency of biennial monitoring stated on page 15-16 of applied methodology. 4. For parameter 'efficiency of baseline stove': It is not clear how these values have been determined. The parameter is required to be Fixed for each individual household at the time of project implementation as per applied meth page 20					

5. For parameter 'adjustment to account for any continued use of pre-project devices during the year y', It is not clear how the applied value is conservative for Period A, considering no monitoring was done in period A. Please note values are applied as per the frequency. Considering vintages in one monitoring is a different aspect of monitoring.

Project participant response
Date : 27/05/2022

1. The sampling plan information, the sample size calculations, and other relevant information is covered in the Joint PD & MR document now (in track-change mode). Please refer to the same.
2. The Applied methodology VMR0006, ver. 1.1, Section 9.3 Page 24 is quoting the lower of the two frequencies stated for the parameters that are to be monitored (page – 15 to 23). Among the parameters to be monitored specific to the grouped project activity, the only parameter that was required to be monitored on an annual basis was the “*Efficiency of the device of each type l and batch j implemented as part of the project activity ($n_{new,l,j}$)*”. Rest of the parameters have a monitoring frequency of 2 years. However, for this VCS grouped project activity, the parameter $n_{new,l,j}$ is already selected as the one with an annual default decrease in efficiency (0.99), and therefore does not require any annual WBTs to be performed. So, it was decided by the PP that the project activity shall be monitored for the parameters once every 2 years, taking care of the adjustments required for the $n_{new,l,j}$ calculations.

The main reason why monitoring could not be performed in 2019 is the lack of funds with the entity that had the GHG Emission Reduction rights for the ICS, under CDM. Due to the spread of COVID-19 pandemic across the globe in 2020, the project monitoring could not be performed in 2020. Nevertheless, as soon as the pandemic severity subsided in 2021 and normal movement of general public was allowed by the government, PP planned and moved forward with the monitoring of the project devices that were in operation. Also, the lack of mobile phones in a significant number of households where the project ICS were distributed prevented PP to go with the alternative measure of remote monitoring via telephonic interviews.

As far as the VVB remarks on the project ICS (based on the VVB site visit) are concerned, the distribution was done in 2016 (and thus belongs to PAI-2 & not PAI-1) for the aforementioned stoves. These are discussed in detail below.

- (a) For project ICS with barcode unique ID EZ133500, the monitoring survey was performed on 12/11/2021. The EcoZoom Dura ICS belongs to the 2016 distribution batch, and the date of distribution is 09/03/2016. The pdf copy of the electronic survey form shared is stating the usage characteristics that were recorded at the time of survey. Kindly refer to the page numbers 13 & 14 of the survey form. These reflect the condition of the stove. The stove was in a bad condition already at that point. However, given that the survey was performed after the monitoring period end date, it can be concluded that it was in use at the time of monitoring survey (alongwith the pre-project stove i.e., 3 stone fire), and it is quite possible that due to the deteriorating condition of the project ICS, it was stopped as being used at all. During the rainy season, end users tend to use their traditional stoves more, and keep their project ICS at a safe place (where it can't get moisture, resulting in the degradation of the metallic body due to rusting) This can be further reviewed through the photograph of the project ICS taken at the time of monitoring survey.

- (b) For project ICS with barcode unique ID EZ135604, the monitoring survey was performed on 12/11/2021. The EcoZoom Dura ICS belongs to the 2016 distribution batch, and the date of distribution is 09/03/2016. The pdf copy of the electronic survey form shared is stating the usage characteristics that were recorded at the time of survey. The project ICS is not being used by the end-user. The user stated that they stopped using the project ICS 240 days before the date of survey. This means that only a fraction of the applicable monitoring period can be considered for VER calculations. The photograph of the ICS was recorded to document its condition at the time of monitoring survey. These reflect the condition of the stove. At the time of the monitoring surveys, the stove was recorded as not being used, and therefore, this is in agreement with the observations recorded by the VVB team on-site.
- (c) For project ICS with barcode unique ID EZ168681, the monitoring survey was performed on 21/10/2021. The EcoZoom Dura ICS belongs to the 2016 distribution batch, and the date of distribution is 18/03/2016. During the monitoring survey, the project ICS user (survey respondent) mentioned that they are not using project ICS as their primary stove, the base of the project ICS is broken, they didn't mention that they were using the project ICS, and they stated that the 3 stone fire is the only cooking device they are using (check survey questionnaire question codes – VS21, VS40, VS43, & VS52A). This describes the condition of the project stove. If the VVB team has found that the project ICS is no longer being used, then it is in conformity with the project monitoring surveys. Therefore, this should not be counted as a discrepancy.
- (d) For project ICS with barcode unique ID EZ352953, the monitoring survey was performed on 21/10/2021. The EcoZoom Dura ICS belongs to the 2016 distribution batch, and the date of distribution is 18/03/2016. During the monitoring survey, the project ICS user (survey respondent) mentioned that they are not using it since past 210 days. If the VVB team has found that the project ICS is no longer being used, then it is in conformity with the project monitoring surveys. Therefore, this should not be counted as a discrepancy.

Based on the above, it can be inferred that there was only 1 non-conformity (ICS with barcode unique ID EZ133500) identified for PAI-2, which is allowed as per the CDM Standard for Sampling, version 09.0.

The parameter “Operational Check – Stoves” is only accounting for the survey responses where the project ICS is available with the end user (refer Question code Q22A1) for usage. There are separate questions & parameters to cover other aspects, such as non-usage, the period of time from which it is not being used, etc. Survey questions such as “whether they have the project ICS with them or not”, “if not, since when they’ve stopped using it”, etc. were asked during the survey to quantify the project ICS that were not at all being used during the monitoring period.

Apart from that, for rest of the project ICS in operation, the actual usage of the project ICS is accounted by multiplying with the factor “% usage project stove” (that is monitored to check for the actual operations of the project stoves, separate for wet & dry season). This factor is taking into account the number of instances the project stove is being used within the monitoring period. Project monitoring surveys are accounting for such instances, where usage related questions are asked from the end-users.

If the project ICS is not used at all, then only such stoves will be considered as inoperative. For example, In the uptime column within the worksheet “SurveyOutputCalc” of Group-1 survey, column L records such information, and assigns 0 days as the uptime within the monitoring period.

If a project ICS is being used even for a brief period during the monitoring period, which is evident from the survey response, it cannot be considered as “not being used during the monitoring period”.

The project ICS units which were used lesser than normal were also recorded in the surveys. The low usage rates of project ICS was accounted for multiple reasons by the end-users. For Group-1 specifically, if the stoves are reaching towards the end of their life, their usage would be relatively lower than those ICS which are distributed in 2016 (Group – 2). This can be referred from the cells A21:G23 in the worksheet “ERs per day”. The data can be verified through the monitoring survey sheets, worksheets “SurveyOutputCalc” column I (for both Group – 1 & 2). Therefore, in no way the usage recorded in the monitoring surveys are recording any “non-usage of project ICS” as a “usage” case.

There shall be a delineation between the interpretations, specific to the terms “less usage”, or “no usage”. Kindly refer to the additional questions asked in the monitoring surveys on project ICS not being used – Questions with code VS77 & VS78A1, in the worksheet “SurveyOutput”. For Group-1, using the above data, it is evident that a total of 31 ICS were found as not working out of a total of 335 users surveyed (i.e. 9.25%). For Group-2, a total of 16 ICS were identified as not working out of a total of 415 users surveyed (i.e. 3.85%).

Adding to this, the fraction of users who were using project ICS as their primary cooking device reflects the real-world scenario, where 63.58% Group-1 (PAI-1) users responded that they are using it as their primary cooking device, and it includes 64.1% Group-2 (PAI-2) project ICS users giving the same response.

With the above discussion, it can be concluded that there are checks and balances on the qualitative and quantitative data collection to account for the ICS usage and operationality, and that VVB may check the ER Sheet for its reference.

3. Based on the monitoring requirements for the parameters that required monitoring, it was decided by the PP that the project activity shall undergo monitoring once every 2 years. For the project activity, PP planned the monitoring to take place in 2020, thus covering the years 2019 & 2020. However, due to the spread of COVID-19 pandemic across the globe in 2020, the project monitoring could not be performed. Nevertheless, as soon as the pandemic severity subsided in 2021 and normal movement of general public was allowed (i.e. COVID-19 related restrictions on public movement and gathering were lifted) by the government, PP planned and moved forward with the monitoring of the project devices that were in operation. The lack of mobile phones in a significant number of households where the project ICS were distributed prevented PP to go with the alternative measure of remote monitoring via telephonic interviews.

As far as the appropriateness of the monitoring surveys conducted in 2021 is concerned, the parameter values are following the 90/10 rule for confidence/precision and are following the sampling requirements as laid down in the CDM Standard for Sampling, version 09.0. The results obtained from the monitoring surveys performed in 2021 are applied to the years 2019 & 2020. This is a conservative approach for the parameter $N_{y,i,j}$ since the usage rate of the project device

will reduce to a lower value than 2019 & 2020, due to aging of project ICS. With this, the usage of pre-project device (μ_y) will also increase, which again lead to higher discounts, and comparatively lower Ers for 2019 & 2020. Due to the lack of finance with the previous owner entity followed by COVID-19 pandemic measures, the delay in monitoring was unanticipated. However, this has led to an increase in the degree of conservativeness for the VER calculations, and therefore it is expected that this shall be accepted by the VVB & VCS alike.

4. The parameter μ_{old} is fixed as default 10.26% for the whole crediting period. This can be ascertained from the fact that the users who are provided with the project ICS are the ones belonging to lower financial class (based on the government categorization of financial levels, also known as Ubudehe 1, 2, 3, & 4). Only those users who can't afford these stoves are added to the list, and then that list is shared with the DelAgua team by district officials. These people are then checked for their baseline cooking device, which is either a traditional device (i.e. 3 stone fire, or any other inefficient form of cooking). This is further recorded by DelAgua in its database. The claims from the end users are agreed in the form of a declaration made on the Tubeho Neza program poster shared with them. This poster includes a statement that the end-user was previously using an inefficient cooking device, and also includes the Carbon Waiver rights statement. The beneficiary/user signs this declaration, and then the distribution team takes a photograph of the user with the poster and the project ICS.
5. The parameter 'adjustment to account for any continued use of pre-project devices during the year y', is conservative for Period 2019 & 2020, though no monitoring was done in period 2019 or 2020 because the age of project ICS distributed under the group – 1 & group – 2 of previous distribution under the VCS project activity is old enough to reverse the trend of using the baseline cooking devices. The stoves under 2014 distribution (group – 1), were 5 years old in the year 2019 (first year of crediting) and were 6 & 7 years old in years 2020 & 2021 respectively. This means that there will be a significant drop in the project device usage for the monitoring period, as they are ageing in this period. This is usual principle in the functioning of any device. As soon as they age, their usage rate first drops to a smaller level, and then the usage eventually comes to a stop. In this case, the users have not purchased the project devices, and therefore, are not of the financial background where they can simply get another ICS as a replacement. The ubudehe levels at which these project ICS are sold, are among those people, who will continue using the baseline device until they get the replacement of the project device. Therefore, usage of pre-project device will increase as the project ICS units age. Though this cannot be furnished with the help of a supporting data (for the years 2019 & 2020), but it can be easily understood that the usage of pre-project device won't decrease with time. The usage of project device & pre-project device are inversely proportional to each other. This can be understood from the fact that as the usage of project device decreases with time (due to aging of ICS), the cooking events will get more and more shifted towards the traditional cooking devices, which are three stone fire and rondereza. This can be reviewed further from the trend captured in monitoring surveys.

Now if we compare the usage of pre-project device usage between the years 2019, 2020, & 2021, it can be assumed that the highest concentration of their usage would be in the later years (when the end-users stopped using project ICS).

This explains the fact that the usage of 2021 monitoring survey figures to the 2019 & 2020 monitoring period is conservative.

Documentation provided by project participant	
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DOE assessment	Date: 02/06/2022
1. Section 5.3. shall have monitoring plan as a part of design description which needs to be followed for every monitoring period. The section has required information. However, section 6, shall have some information about the sampling applied in current monitoring period. No information on sampling plan followed in current MP is mentioned. Section 5.3 has mix of both. PP shall provide the information in segregated manner confirming that all components of sampling plan designed has been followed for the current monitoring. Open 2. The stoves found not functional were also found to be observed as non-functional in PP's survey. Thus, acceptance sampling applied was found to have 0 discrepancy. PP claims only for the stoves in operational conditional by discounting non-operational stoves through monitoring of usage rate. 3. PP needs to seek deviation for the delay in monitoring. Open. 4. The parameter is a monitored parameter which needs to be determined for each household. The applied methodology does not have a provision to fix it for all the household at the time of validation. 5. PP needs to seek deviation for the delay in monitoring. Open.	
Project participant response	Date : 03/06/2022
1. The segregation in the Monitoring Plan is now drafted in the updated PD&MR ver. 2.2. The document is now encompassing 2 sub-sections, namely "<i>Monitoring Plan Design for the Grouped Project Activity (from Monitoring Period-2 and onwards)</i>", and "<i>Monitoring Plan applied for Monitoring Period 1 (PAI-1 & 2)</i>". 3. The deviation is already described in the PD&MR. However, to be clear, this is now added to the relevant section in the document (Section 3.6). 4. PP agrees with the VVB opinion, and the PD&MR are now being revised, where the monitored parameter will stay as-it-is and will be monitored for each new distribution under the PAIs. 5. The response to sub-finding point 3 above will apply here too.	
Documentation provided by project participant	
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DOE assessment	Date: 13/06/2022
PP shall provide comparative analysis of all the values and demonstrate how the most conservative value has been applied for the period of delay for each parameter determined through surveys. Open	
Project participant response	Date : 14/06/2022
The delay in the monitoring of parameter values was due to the following reasons: 1. COVID-19 related restriction on the movement in 2020. 2. The lack of clarity the PP had in going ahead with the VCS project activity registration, prior to seeking approval from VCS. 3. The whole transfer of project activity from CDM is based on the fact that under the CDM, the PP had no resources to proceed with the monitoring, followed by facilitating the verification and subsequently the issuance. If the PP was incorporated in 2021, and the decision on VCS	

registration approach was approved by VCS, it is unreasonable to expect the surveys to be performed in advance for an activity that is seeking retroactive crediting.

All the above were extraordinary circumstances (none of the above was deliberate), under which, it was not possible to continue with the surveys (amid lack of funds CDM PoA PP had) when there is a higher degree of uncertainty on the future of the project ICS distributed (the program under which the ICS will be crediting and the methodology that will be applied), and the crediting of the ERs from those. Furthermore, for a retroactive crediting, expecting that the PP keeps up with the frequency of monitoring, before even designing the monitoring plan and getting it validated by VVB is extraordinary.

Since the approach that was considered for monitoring of retroactive distribution is a deviation from the monitoring frequency provided under the applied methodology, it is provided in the PD&MR within the relevant section. It could not be planned in advance, especially in the case when the applied methodology was approved in September 2020.

The degree of conservativeness lies in the fact that the usage rate of the project device (ICS) decreases over time, which may be evidenced through the CDM Monitoring Reports for the previous issuances of the PoA 9626 (Monitoring period 01, 02 & 03, relevant to CPAs 01-17). There is no way usage rate can be increased for ICS that are on-site for the later years of the age of stove units. This also applies to the number of operational ICS in the project scenario, where the number of operational ICS cannot increase for a specific distribution batch. The usage of pre-project device increases for cases where there is a decrease in the usage rate of the project device.

Therefore, we cannot expect the above discussed values to be conservative for the earlier years of their operation, when compared with the later years (especially when the ICS of 2014 distribution are nearing their end of useful life).

The values obtained were obtained through surveys that could not be conducted earlier for the case of a retroactive crediting, adding to the fact that COVID-19 restrictions, and strategic decision on ICS crediting under VCS Grouped Project took in the later year (2021). The delay was not a deliberate action from PP but was rather the only approach available at that point.

If the operational check of project ICS, their usage rate, and usage of pre-project device are the parameters that are conservative in the later years of monitoring, it can only be furnished as a generalized fact, and can be referenced through most of the available MRs for similar project devices (ICS).

Documentation provided by project participant

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DOE assessment

Date: 16/06/2022

Justification provided by the PP was accepted by the VVB as the values applied are conservative.

Thus, the finding is closed.

CAR ID	08	Section no.	ER sheet	Date : 24/04/2022
Description of CAR				
ER sheet:				

A. Tab 'ERs per day': 1. Parameter BS could not be found in the Joint PD and MR 2. Parameter Downtime could not be found in the Joint PD and MR. 3. value EF is inconsistent with the applied meth and the Joint PD and MR 4. For project stove efficiency: Factor 0.94 is not applied in cell D4 of tab stove efficiency sheet Calc VCS Eff1 B. Tab 'ERs per stove' Cell G11 and H11 both mention year 2019.	
Project participant response	Date : 27/05/2022
ER sheet: A. Tab 'ERs per day': 1. Parameter BS could not be found in the Joint PD and MR – The parameter mentioned is not accounted in the ER calculations. However, the reference to this factor is no more available in the newer version of the PD&MR and the ER Sheet. All the applicable parameters are now duly elaborated and made consistent between the ER Sheet and the Joint PD&MR. 2. Parameter Downtime could not be found in the Joint PD and MR – The number of days for which the project ICS is not in use is accounted in the ER calculations. However, the reference to this factor is no more available in the newer version of the PD&MR and the ER Sheet. All the applicable parameters are now duly elaborated and made consistent between the ER Sheet and the Joint PD&MR. 3. value EF is inconsistent with the applied meth and the Joint PD and MR – The EF values provided in the applied meth have been applied to ER calculations now, and this information is made consistent between the documents. 4. For project stove efficiency: Factor 0.94 is not applied in cell D4 of tab stove efficiency sheet Calc VCS Eff1 – The value is now applied to the Efficiency calculations in the ER Sheet. B. Tab 'ERs per stove' Cell G11 and H11 both mention year 2019: The ER Calculation Sheet is now reformatted, and therefore, this editorial error is not there in the newer version of sheet (ver. 2.1).	
Documentation provided by project participant	
NA	
DOE assessment	Date: 02/06/2022
A. review of responses: 1. BS- unrelated parameter has been removed. Closed. 2. Downtime- It the factor is used in calculation, why the reference in Joint PD and MR has been removed? Open 3. EF has been revised and made consistent with the applied meth. Closed.	

4. Factor has been applied now in cell D4, tab 'stove efficiency'. Closed.	
B. The error has been rectified. Closed.	
Project participant response	Date : 03/06/2022
A. Tab 'ERs per day': 2 Downtime – This parameter is neither mentioned anywhere in the PD&MR ver. 2.2 nor is used for ER calculations (evident from the ER Sheet ver. 2.2). The number of “Operational Days” is a parameter that is used to quantify the ERs (VCUs), through the calculations incorporating the exact number of operational days (obtained through monitoring surveys), and not the “Downtime”. Therefore, PP requests VVB to close this open finding.	
Documentation provided by project participant	
-	
DOE assessment	Date: 13/06/2022
Factor has been removed. Since, it is not suggested by the applied methodology, it was accepted by the VVB. Thus, the finding is closed.	

CAR ID	09	Section No.	3.4.6., 4.2	Date: 06/07/2022
Description of CAR				
Dates under section 1.8, are not consistent with database provided. End date of MP is mentioned as 31/12/2021 under section 6.5 and ER sheet. Please check.				
Project participant response				Date: 12/07/2022
1. The dates are now revised. Those were typo errors. 2. The monitoring period end date is corrected in the PD&MR and the ER Sheet now.				
Documentation provided by project participant				
NA				
DOE assessment				Date: 14/07/2022
1. The dates are now consistently provided. 2. The end date has been corrected now. Thus, the finding is closed.				

CAR ID	10	Section No.	3.4.6., 4.2	Date : 06/07/2022
Description of CAR				
1. fNRB: It is a calculated parameter. PP shall provide calculation sheet 2. section 5.2, Assumption applied, and actual value applied could not be confirmed for EACH parameter				

3. section 6, monitored parameter do not mention frequency of method of calculation for the parameters.
4. Nyij: Operational rate not mentioned. PP shall transparently show the no. of stoves was commissioned and still operational.
5. Operation reported for stoves in 7 year is as high as 98% or 99%. lead team found 4 HHs with broken stove not in operational condition. Moreover, the reason has been shown as rainy season while the PP is claiming for entire year. Please clarify.
6. Nnew: PAI-1: 0.3924
PAI-2: 0.4024
These are values of efficiency under section 5.2.
It is not clear how the values have been determined and applied and reversed under section 6.
7. Parameter nnold: It is not clear how the value has been determined. Please provide supportive sheet and add source of parameter/calculation method

Project participant response
Date : 12/07/2022

1. The parameter f_{NRB} value is sourced from a publicly available PD, which is validated under an approved GHG program (GS4GG).

Since the f_{NRB} calculation sheet is not provided on the project webpage (hosted on the GS SustainCert registry), PP does not have access to the calculations.

However, the VVB & Team Leader for the current Joint Validation & Verification scope are the ones who approved the f_{NRB} value in use. The calculation may be accessed from the VVB Team Leader.

2. In Section 5.2, the only 2 assumptions that were used for parameters to be monitored are – the number of ICS distributed, and the efficiency of the baseline (pre-project) cooking device. It is provided in the relevant space (comments row of the parameter) that these are assumptions.

3. The parameter tables available in the Section – 6 of the joint PD&MR template does not have any provision/space to mention the monitoring frequency. The actual design of the template is not revised, as it is in violation of the VCS form filling requirements. The frequency is already provided in Section 5.2 for these parameters. The deviation in the frequency of monitoring is also duly mentioned in the PD&MR within the required section.

4. The revisions are made to the required parameter table. It is now presenting the actual numbers distributed, the operational rate identified during the monitoring, and the revised numbers considered operational for the first monitoring period.

5. The VVB team found the stoves inoperative either after the end of their manufacturer specified useful life (7 years), or the ones that were already mentioned as inoperative in the surveys. TR is requested to check CAR07 response (above) provided by PP. This is duly explained in the finding response.

VVB TL has closed this finding upon as the response is aligning with the observations made by VVB during the on-site visit.

6. The values are now revised with a higher degree of clarity. It may be reviewed by TR if it is meeting the requirements now, and sufficient enough to close the finding.

7. The supporting document is the analysis and calculations based on Household survey records for PAI-1 & 2. A household survey data of 71,221 users (to which project ICS was distributed) established that the baseline usage practice for these users is firewood based unimproved (conventional) cooking practices. Sheet "BaselineCalcs" cell AN71225 is providing the calculated value of 0.1026.

For calculating the estimates of VCUs for the rest of the crediting period, assumed value of 0.1 was applied to the calculations. However, for the upcoming PAIs, the value will be calculated based on the household survey data obtained.

Documentation provided by project participant

Revised MR

DOE assessment

Date: 14/07/2022

1. The justification was found sufficient. Closed.
2. Assumed and actual applied values are now mentioned correctly in the Joint PD and MR.
3. section 6, monitored parameter mentions the frequency of method of calculation for the parameters now.
4. Nyij: Operational rate are now mentioned.
5. The justification was found sufficient. Closed.
6. The values are consistent now.
7. Parameter nnold: supportive has been provided now.

Thus, the finding is closed.

Table 4. FAR from this verification

FAR ID	01	Section No.		Date : 18/01/2023
Description of FAR				
In the subsequent audits conducted by the VVB, the team shall carry a detailed assessment of the continuous usage of the ICS and asses the accuracy of the monitoring questionnaire to capture the usage rate.				
Project participant response				Date : DD/MM/YYYY
NA				
Documentation provided by project participant				
NA				
DOE assessment				Date: DD/MM/YYYY
NA				