



VERIFICATION REPORT

GROUPED PROJECTS FOR WATER PURIFIERS FOR CLIMATE AND COMMUNITY ACTION



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Summary:

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

Verification: Sustainability Investment Promotion and Development Joint Stock Company (SIPCO) has appointed EPIC Sustainability Services Private Limited, to carry out the second (2nd) verification of the VCS project “Grouped projects for water purifiers for climate and community action” in Viet Nam, VCS ID: 2557. And fall under the sectoral scope 03. The verification is based on the desk review of the Monitoring report /01/, registered VCS PD /23/ and the corresponding validation report /23/, supporting emission reduction calculation spread sheets /02/ and other relevant supporting documents made available to the verification team by the project proponent accompanied by onsite audit and also onsite interviews. This verification involves the period of 01-December 2022 to 30-June-2023 (including both the days).

Project: The project “Grouped projects for water purifiers for climate and community action”, is a grouped project which employs CDM methodology AMS-III.AV. (Version 08.0) /B02/. The project involves distribution/construction of SDWPs in Viet Nam. The grouped project activity (“hereafter “proposed project activity”) involves the distribution of low greenhouse gas emitting safe drinking water purifier (SDWP) to provide clean drinking water to the households/communities (hereafter “users”) of Viet Nam. For this reason, this proposed project activity aims at reducing the wood fuel consumption of traditional stove users by distributing water purifiers to households.

The grouped project activity reduces the use and demand for fossil fuels and non-renewable biomass that would have been used to boil water as a means to purify water in the absence of this project activity. This directly leads to reduced greenhouse gas emissions.

- **The purpose and scope of verification**

Purpose: The purpose of the verification is to review the monitoring results and verify that monitoring methodology was implemented according to monitoring plan and monitoring data, used to confirm the reductions in anthropogenic emissions by sources is sufficient, definitive and presented in a concise and transparent manner. In particular, monitoring plan, monitoring report and the project’s compliance with relevant VCS, UNFCCC and host party criteria are verified in order to confirm that the project has been implemented in accordance with previously registered design and conservative assumptions, as documented.

The grouped project activity reduces the use and demand for fossil fuels and non-renewable biomass that would have been used to boil water as a means to purify water in the absence of this project activity. This directly leads to reduced greenhouse gas emissions.

The scope of the verification is:

- To verify the project implementation and operation with respect to the registered VCS PD
- To verify the implemented monitoring plan with the registered VCS PD and applied baseline and monitoring methodology.
- To verify that the actual monitoring systems and procedures are in compliance with the monitoring systems and procedures described in the monitoring plan.

- To evaluate the GHG emission reduction data and express a conclusion with a reasonable level of assurance about whether the reported GHG emission reduction data is free from material misstatement.
- To verify that reported GHG emission data is sufficiently supported by evidence.

The verification shall ensure that the reported emission reductions are complete and accurate in order to be certified.

- **The method and criteria used for verification.**

- (a) Desk review, involving:

- (i) Review of the data and information presented to verify their completeness;
 - (ii) Review of the monitoring plan and monitoring methodology, paying particular attention to the frequency of measurements, the quality of metering equipment including calibration requirements, and the quality assurance and quality control procedures;
 - (iii) 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;

- (b) Onsite assessment involving:

- (i) Assessment of the implementation and operation of the proposed VCS grouped project activity as per the registered VCS PD;
 - (ii) Review of information flows for generating, aggregating and reporting the monitoring parameters;
 - (iii) Interview with relevant personnel to confirm that the operational and data collection procedures are implemented in accordance with the monitoring plan in the registered VCS PD;
 - (iv) A cross-check between information provided in the monitoring report and data from other sources such as inventories, purchase records, or similar data sources;
 - (v) A check of the monitoring equipment including calibration performance and observations of monitoring practices against the requirements of the registered VCS PD and the selected methodology;
 - (vi) Review of calculations and assumptions made in determining the GHG data and emission reductions;
 - (vii) Identification of quality control and quality assurance procedures in place to prevent or identify and correct any errors or omissions in the reported monitoring parameters.

- **The number of findings raised during verification.**

A risk-based approach has been followed to perform this verification. During the course of verification, a total of 05 findings were raised, which includes:

04 Corrective Action Request (CARs); 01 Clarification Requests (CL).

All the raised findings were successfully resolved by the PP.

- **Any uncertainties associated with the verification**

The VCS MR /01/, emissions reduction calculations /02/ along with the supporting documents provided are considered to be in line with all the VCS requirements /B01/. The verification team has detected no further uncertainties or quality restriction.

- **Summary of the verification conclusion**

In EPIC's opinion, the emission reductions reported for the "Grouped projects for water purifiers for climate and community action" in the monitoring report are fairly and correctly stated. EPIC is therefore able to certify that the emission reductions from the "Grouped projects for water purifiers for climate and community action" during the period from 01-December-2022 to 30-June-2023, is amount 320,887 tCO₂ equivalent.

Request for issuance of VCU's shall be made by the project proponent to an approved VCS Program Registry based on the requirements set out under the most recent version of the VCS Program Guidelines clause on VCS Registration. The verification of reported emission reductions is based on the information made available to EPIC and the engagement conditions detailed in this report.

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1 INTRODUCTION

1.1 Objective

Sustainability Investment Promotion and Development Joint Stock Company has appointed the VVB, EPIC Sustainability Services Private Limited to perform a verification of the VCS Grouped Project “Grouped projects for water purifiers for climate and community action”. This report summarizes the findings of verification of the project, performed on the basis of the VCS Program Guide (v4.4, updated 29-August-2023) /B01-b/, VCS Standard (v4.5, updated 29-August-2023) /B01-a/, Program Definitions (v4.4, updated 29-August-2023) /B01-e/, Registration & Issuance Process (v4.4, updated 31-August-2023) /B01-d/, VCS Validation and Verification Manual (v 3.2, dated 19-October-2016) /B01-c/. Verification is required for all VCS project activities intending to register a grouped project under the VCS program. This report contains the findings and resolutions from the verification of the grouped project. The purpose of a verification is to have a thorough and independent assessment of the proposed grouped project against the applicable VCS requirements, in particular, the project's baseline, monitoring plan and the project's compliance with relevant VCS and host Party criteria. These are verified in order to confirm that the monitoring report, as documented, is sound and reasonable and meets the identified criteria. Verification is a requirement for all VCS projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of emission reductions, VCUs. The monitoring system is implemented and fully functional to generate emission reductions without any double counting, and the data reported are accurate, complete, consistent, transparent and free of material error or omission by checking the monitoring records and the emissions reductions calculation.

1.2 Scope and Criteria

The verification of this project is based on the registered VCS Project Description /23/, the Monitoring Report of this monitoring period /01/, emission reduction calculation spread sheet /02/, supporting documents made available to the verifier and information collected through performing interviews and during the on-site assessment. Furthermore, publicly available information was considered as far as available and required.

EPIC has employed a risk-based approach in the verification, focusing on the identification of significant risks and reliability of project monitoring and generation of emission reductions.

The verification is carried out on the basis of the following requirements (latest available on VCS website at the time of verification), applicable for this project activity:

- VCS Program Guide version 4.4, updated 29-August-2023
- VCS Standard version 4.5, updated 29-August-2023
- Program Definitions version 4.4, updated 29-August-2023
- Registration & Issuance Process version 4.4 updated 31-August-2023

- VCS validation and verification manual version 3.2, dated 19-October-2016
- CDM Methodology: AMS-III. AV version 08.0 “Low greenhouse gas emitting safe drinking water production system”/B02/
- Other relevant rules, including the host country legislation

The scope of this verification, by independent checking of objective evidence, is as follows:

- To verify that the project is implemented as described in the project description.
- To assess the project’s compliance with other relevant rules including the host country legislation.
- To assess the implementation of the monitoring plan content as mentioned in the registered VCS-PD /23/.
- To confirm that the monitoring system is implemented and fully functional to generate voluntary emission reductions (VERs/VCUs) without any double counting.
- To establish that the data reported are accurate, complete, consistent, transparent, and free of material error or omission by checking the monitoring records and the emissions reduction calculation /02/.
- To evaluate the GHG emissions reduction data and express a conclusion with a reasonable level of assurance about whether the reported GHG emissions reduction data is free from material misstatement.
- To verify that reported GHG emissions data is sufficiently supported by evidence.
- The verification shall ensure that the reported emission reductions are complete and accurate to be certified.

The method and criteria used for verification consisted of the following phases:

- 1) Completeness check and desk review
- 2) On Site Visit
- 3) Resolution of outstanding issues and issuance of final verification report and applicable VCS Validation and Verification Deeds of Representation.

EPIC Sustainability Services Private Limited conducts all its work under strict rules to safeguard impartiality and ensure the independence of the verification team. The verification does not provide any consulting or recommendations for the client. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the monitoring activities.

1.3 Level of Assurance

The verification report is based on the Monitoring report /01/, registered VCS PD and corresponding validation report /23/, supporting documents /03/-/30/ made available to the verifier and information collected through performing interviews.

The verification has been planned and organised to achieve a:

- ☒ Reasonable level of assurance

☐ Limited level of assurance

1.4 Summary Description of the Project

The project “Grouped projects for water purifiers for climate and community action”, is a grouped project which employs of the CDM methodology; AMS–III.AV: “Low greenhouse gas-emitting safe drinking water production systems”, version 08 /B02/. The grouped project involves distribution of safe drinking water purifier (SDWP)s in 30 provinces of Vietnam. The project activity targets households in rural communities with no previous water purifiers access. The geographical boundary is in 30 provinces of Viet Nam. The KML file /31/ has been provided to the VVB, this has been verified and confirmed during the onsite visit. Water purifiers are distributed free of cost to users as per registered VCS PD /23/.

The grouped project activity reduces the use and demand for fossil fuels and non-renewable biomass that would have been used to boil water as a means to purify water in the absence of this project activity. This directly leads to reduced greenhouse gas emissions.

As per the VCS PD /23/, the Project activity will promote the dissemination of Safe drinking water purifier with tank capacity 25 litres and removal of bacteria is 99.999%. Lifespan of SDWPs is 10 years. Each water purifier has been confirmed to the technology standards as per paragraph 4(b) of approved methodology AMS-III.AV Version 08. The outlet quality of water has been met microbes defined in QCVN 6-1:2010/BYT for drinking waters and meet the technology standards as per paragraph 4(b) of approved methodology AMS-III.AV Version 08.

As per the registered VCS PD /23/, and interviews with the representative of project proponent, each SDWP under project is uniquely identifiable /10/ and would be assured that it is not part of any other VCS project. Each project activity instance is uniquely identifiable /10/ by unique system to avoid the double counting. The measures to avoid double counting is deemed acceptable to the verification team. Project proponent has also submitted declaration /17/ and /18/ to confirm the following:

- That the project is not creating any other form of environmental credit under any specific program.
- That the project has not or shall not claim carbon credits on any other scheme after Registration of the project under VCS.

The project proponent for the project activity is Sustainability Investment Promotion and Development Joint Stock Company, owns the rights to VCUs under VCS/05/.

The scale of the “Grouped projects for water purifiers for climate and community action” is under project category and the total estimated volume of GHG emission reductions from project activity 1 is 29,955tCO₂/year as per the registered VCS PD and its corresponding validation report /23/.

The net emission reductions or removals for 30 project instances was 95,318 tCO₂e for the first monitoring period (01-November-2021 to 30-November-2022). The net emission reductions or removals for 30 project instances was 320,887 tCO₂e for this second monitoring period (01-December-2022 to 30-June-2023). The crediting period for the project activity is fixed type (10 years 00 months) is the life

span of the water purifier. The start date of the crediting period is 01-November-2021 and the end date is 31-October-2031.

2 VERIFICATION PROCESS

2.1 Method and Criteria

The method and criteria used for verification:

The verification consists of the following three phases:

1. Completeness check and desk review of the validation report, monitoring plan, monitoring report, monitoring methodology, VCS PD, applicable tools in particular attention to the frequency of measurements, quality of metering equipment including calibration requirements, QA/QC procedures and other relevant documents.
2. Onsite interviews (including follow-up interviews with project stakeholders, when deemed necessary).
The onsite interviews include the following:
 - An assignment of implementation and operation of project activity with respect to validated VCS PD
 - Review of information flows for generating, aggregating, and reporting the monitoring parameters.
 - Interview with relevant personals to determine whether the operational and data collection procedures are implemented and in accordance with the monitoring plan of the validated VCS PD,
 - Cross check of information and data provided in the monitoring report with purchase records or similar data sources.
 - Review of assumptions made in calculating the emission reductions (if any).
 - Implementation of QA/QC procedure in-line with the VCS PD and methodology requirements.
3. Resolution of outstanding issues and the issuance of the final Verification report and as applicable the VCS Verification Deed of Representation

Sustainability Investment Promotion and Development Joint Stock Company has appointed the VVB, EPIC Sustainability Services Private Limited, to carry out the verification of the project “Grouped projects for water purifiers for climate and community action”, with regards to the relevant requirements of VCS Standard Version 4.5 (updated 29-August-2023) /B01-a/.

The verification through the EPIC includes a thorough and independent assessment of the proposed grouped project against the applicable VCS requirements, the project's used methodology AMS-III. AV. V.08.0, sampling and survey standard v09.0, Implementation of project status, Data and Parameters

monitored, monitoring plan and the project's compliance with relevant VCS and host party criteria. The verification involves assessment of the project and to confirm that the project meets the applicability conditions of the selected methodology, AMS– III.AV: “Low greenhouse gas-emitting safe drinking water production systems”, version 08 /B02/ and assess the claims and compliance made in the MR /01/ without limitation on the information provided by the project participants.

The verification team of the EPIC has applied a sampling approach, acceptance sampling for the onsite interviews as part of verification in accordance with the paragraph 26 of the Standard: Sampling and surveys for CDM project activities and programmes of activities, (Version 09.0). In accordance with the paragraph 28 of the sampling standard /B03a/, acceptance sampling has been chosen by the verification team and accordingly steps listed in paragraph 29 and 39 of the sampling standards shall be followed.

Verification team has opted for AQL of 0.5 % and UQL of 20 %; producer risk of 10 % and consumer risk of 10 % in determining the VVB's sample size. Accordingly, the sample size to be interviewed for the above-mentioned parameters are 11, with acceptance number (c) as 0. The overall verification was conducted using EPIC's internal procedures.

2.2 Document Review

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

This report contains the findings and resolutions from the verification and a verification opinion on this monitoring period of proposed grouped project thus confirming the project monitoring as document is sound and reasonable and meets the stated requirements and identified criteria in the registered VCS PD /23/.

The VCS monitoring report/01/, emission reduction calculation spread sheet “VCS-ER-ID 2557 01DEC2022 - 30JUN2023” /02/, sampling size calculation, survey summary, water quality, Py (Population who consumes the purified water serviced by the project activity in year y) and m (fraction of functional appliances that are providing the SDWP), and supporting documents related to the project monitoring report for second (2nd) verification and net emission reduction/removal were reviewed as per VCS standard version 4.5 /B01-a/ requirements. The desk review included:

- A review of the data and information presented to verify completeness and consistency in accordance with VCS standard version 4.5 requirements.
- A review of the Monitoring report /01/, data monitored and monitoring methodology, paying particular attention to the applicability conditions of the methodology, sampling plan and size, survey summary and net emission reduction for the considered monitoring period by the distribution of SDWPs in the 30 provinces of Viet Nam.
- A review of the monitoring plan and the project's compliance with relevant VCS criteria.

- An evaluation of data management and the QA/QC system in the context of their influence on the generation and reporting of ERs.

The monitoring report /01/ was initially reviewed, and EPIC requested the PP to present the supporting information and documents /03/-/30/. The documents were reviewed by EPIC. Through the process of the verification, the revised monitoring report and the supporting documents were evaluated to confirm the actions taken by the PP to the CARs and CLs issued by the verification team.

The list of documents referred during the course of this verification has been provided in Appendix 03.

2.3 Interviews

The table below describes the on-site interview process and further identifies personnel, including their roles, who were interviewed and/or provided information additional to that provided in the monitoring report /01/ and any supporting documents.

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Ngo	Thị Viet Anh	SIPCO (PP representative)	From 20 to 21-August-2023	Project implementation and operation, monitoring procedure, data and information flow, Roles and responsibility, Quality Assurance – Management and operating system, Distribution records, Survey records, Training Qualification and Training, VCU calculation and completeness of monitoring report, compliance of monitoring plan with monitoring methodology and registered VCS PD.	Nguyen H.N. Trang
2.	Nguyen	Doan Thinh	SIPCO (PP representative)	From 20 to 21-August-2023		
4.	Le	Thi Quyen	End-user	From 20 to 21-August-2023	Cross-check of a sample of project participants' samples (Questionnaire, operation surveys/interviews)	Nguyen H.N. Trang
5.	Nguyen	Thi Mong	End-user	From 20 to 21-August-2023	Including household size, public supply system, source of drinking water, amount of water used per day per	

6.	Tran	Thi Le Thuy	End-user	From 20 to 21-August-2023	family, treatment method, type of cookstove and fuel used for treating water.	
7.	Y	Xua	End-user	From 20 to 21-August-2023		
8.	Y	Phui	End-user	From 20 to 21-August-2023		
9.	Tran	Thi Thuyen	End-user	From 20 to 21-August-2023		
10.	Ho	Thi Ty	End-user	From 20 to 21-August-2023		
11.	Pham	Thi Hang	End-user	From 20 to 21-August-2023		
12.	Vang	Thi Do	End-user	From 20 to 21-August-2023		
13.	Vi	Thi La	End-user	From 20 to 21-August-2023	Cross-check of a sample of project participants' samples (Questionnaire, operation surveys/interviews) Including household size, public supply system, source of drinking water, amount of water used per day per family, treatment method,	Nguyen H.N. Trang
14.	Hoang	Thi Phuong	End-user	From 20 to 21-August-2023		
15.	Nguyen	Thi Trung	End-user	From 20 to 21-August-2023		

16.	Ka	Phung	End-user	From 20 to 21-August-2023	type of cookstove and fuel used for treating water.	
17.	Sung	Thi Sen	End-user	From 20 to 21-August-2023	Cross-check of a sample of project participants' samples (Questionnaire, operation surveys/interviews) for the parameter, quality of safe drinking water.	
18.	Huynh	Thi Ngoc Diem	Ninh Hoa Town Women Union	From 20 to 21-August-2023	Project implementation and operation, monitoring procedure, data and information flow, Stakeholder ongoing consultation, baseline scenarios, baseline survey, monitoring survey, grievance mechanism procedure, Impact on health, income, etc, social & environmental impacts.	Nguyen H.N. Trang
19.	Lien	Thi Hiep	Ninh Da Ward Women Union	From 20 to 21-August-2023		
20.	Hoang	Thi Thu Lan	Phu Yen Province Women Union	From 20 to 21-August-2023		
21.	Le	Thi Diep	Kon Tum Province Women Union	From 20 to 21-August-2023		
22.	Vo	Thi Ngoc	Dak Lak Province Women Union	From 20 to 21-August-2023		
23.	Ngo	Thi Huong	Dak Mil Dist, Dak Nong Province Women Union	From 20 to 21-August-2023		
24.	Nguyen	Thi My Hlen	Duc Manh Dist. Women Union	From 20 to 21-August-2023		

2.4 Site Visits

A site visit to the project activity was undertaken by team leader from 20 to 21-August-2023 to assess the implementation and operation of the project activity and to review evidence, and interview key personnel to confirm evidence associated with the data generation, aggregation, and calculation and reporting of the monitoring parameters.

The site visit addressed:

- An assessment of the project implementation and operation as per the registered VCS PD /23/ (including physical inspection to confirm physical existence and operation of project components).
- Review of information flows for generating, aggregating, and reporting the monitoring parameters/data.
- Interviews with relevant personnel to confirm that the operational and data collection procedures are implemented in accordance with the monitoring plan in the monitoring report /01/.

In line with paragraph 26 of the Sampling Standard, the verification team has applied acceptance sampling approach through on-site interviews on the sampling survey as part of verification. The project participant had applied sampling approach. A representative Monitoring survey /14/ was conducted by the representatives of Project participant. The verification team has chosen acceptance sampling in accordance with paragraph 28 of the sampling standard /B03a/.

Applying steps listed in paragraph 29-38 of the sampling standard, version 09 /B03a/, a sample size of 11 households was chosen with acceptance number (c) as 0. A sample size of 11 was determined, based on an AQL of 0.5% and UQL of 20%, producer risk 10% and consumer risk 10%. Acceptance number thus determined for the sample is 0. However, VVB also interviewed 7 end users for parameters quality of safe drinking water, fixed ex-ante which is based on the baseline survey.

The information provided in the sampling survey data /14/, has been cross checked during the onsite interviews conducted. As a part of acceptance sampling, the verification team could confirm the User habit survey data with no discrepant records. Thus, PP's set of records has been accepted in line with § 33 of the sampling standard, version 09 /B03a/.

The verification team carried out site interviews with representatives of PP in order to assess the information included in the project documentation and to gain additional information regarding the compliance of the project with the relevant criteria applicable for the VCS.

2.5 Resolution of Findings

This section summarizes the findings from the verification of the project activity. In this section the findings from the document review, assessments and onsite interviews are provided.

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

Corrective action requests (CAR) are issued, where:

- i. Mistakes have been made with a direct influence on project results requiring adjustments of the VCUs monitoring report.
- ii. Applicable methodological specific requirements have not been met.

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

The verification team identified 04 CARs and 01 CLs. All CARs and CLs raised by EPIC during this verification have been resolved. If this was not completed, the ERs cannot be certified and recommended for issuance to the VCS Registry.

2.5.1 Forward Action Requests

Forward Action Request (FAR) is to be raised when the monitoring and reporting require attention and/or adjustment for the next verification period. FARs does not relate to VCS requirements for issuance of ERs achieved during subject monitoring.

No Forward action request has been raised during this verification or previous verifications and validation which are applicable for the current monitoring period.

2.6 Eligibility for Validation Activities

Validation/Verification body (VVB), EPIC Sustainability Services Private Limited holds accreditation for verification

for the relevant sectoral scope 03 and is eligible for validation/verification for the project activity.

Please refer to the link below.

<https://verra.org/validation-verification/epic-sustainability-services-pvt-ltd/>

3 VALIDATION FINDINGS

3.1 Methodology Deviations

N/A

The UNFCCC methodology of AMS-III.AV; “Low greenhouse gas- emitting safe drinking water production systems”, version 08/B02/. And its related tools are applied as they are without any deviation from methodology. Hence, it is clear that there is no methodology deviation identified during the current monitoring period.

3.2 Project Description Deviations

1. Change in the sample size calculation for parameters m

There has a change in the sample size calculation for parameter m “fraction of functional appliances that are meeting the SDWP Standard” that is mentioned in section 5.3 of registered VCS PD /23/. The change is as described below.

Parameter m

As per Guideline “Sampling and surveys for CDM project activities and programmes of activities”, for the use of a single sampling plan covering a group of PAs, provided the homogeneity of population can be demonstrated, or differences are taken into account in the sample size calculation, a 95/10 confidence/precision is applied for annual sampling. For fraction of functional appliances that are providing the SDWP (m), this is proportion value so the equation that will be used is:

$$n \geq \frac{1.96^2 N \times p(1-p)}{(N-1) \times 0.1^2 \times p^2 + 1.96^2 p(1-p)}$$

Where:

n : Sample size

$N = N_y$: Population who consumes the purified water serviced by the project activity in year y

p : Our expected proportion of the installed water purification systems will be in use and operating at the specified efficiency)

1.96 : Represents the 95 % confidence required

0.1 : Represents the 10 % relative precision

Substituting the values in above equation gives the value of N = [Number of users to be sampled] (rounded up).

At validation, the Implementer mentioned to distribute 28,000 SDWPs and will provide clean drinking water to 28,000 households in Tuyen Quang Province. So, the population size, N is taken as 28,000 persons.

It is expected at least 90% of households will be use drinking water from SDWPs, hence the expected proportion p for $N_{y,i,j}$ is taken as 0.9.

Based on the above assumptions, the resulting sampling size for a 95/10 confidence/precision is calculated as:

$$n \geq \frac{1.96^2 \times 28,000 \times 0.9 (1-0.9)}{(28,000-1) \times 0.1^2 \times 0.9^2 + 1.96^2 \times 0.9 (1-0.9)}$$

Which comes out to be:

$$n \geq 42.62$$

$$n = 43$$

Therefore, in this case a sample size of 43 is to be sampled from each primary sampling unit.

In case the resulting sample size to achieve the desired confidence/precision levels is smaller than 30, a minimum sample size of 30 shall be chosen when the parameter of interest is a proportion. The sample size is 43.

The verification team of EPIC assess the methodology application, application of formula as per the sampling standard and finds that the deviation mentioned by the CME is deemed appropriate as the sample size calculation of parameter m based on the formula of mean parameter while the parameter m is a proportional value, so the deviation is in compliance with the VCS rules. In addition, this deviation does not impact the applicability of the methodology, additionality and the appropriateness of the baseline scenarios. Thus, the verification team of EPIC accept it.

2. Change in the value of f_{NRB}

There has been a change in the value of f_{NRB} “Fraction of woody biomass saved by the project activity in year y that can be established as non-renewable biomass”. The f_{NRB} in the registered VCS PD is 0.9403 as verified by the independent report of third Party C4Ecosolutions /19/. The registered VCS PD /23/ & its validation report /23/ was approved on 20 Jan 2022.

Since the value is quite high, and PP wants to have a conservative approach, PP has contracted third party C4Ecosolutions for a study and update of f_{NRB} again as per CDM Methodological Tool: “Calculation of fraction of non- renewable biomass” (v04.0). The verification team confirms that it has checked updated f_{NRB} calculation report/spread sheet /32/ prepared by C4Ecosolutions.

As review of updated f_{NRB} report /32/ prepared by C4Ecolution revealed that all the data used for the recalculation is latest available data at the time of this verification report.

Review of updated f_{NRB} calculation report/spread sheet /32/ prepared by C4Ecosolutions reveals that the estimation of non-domestic fuel consumption was derived from the UN Statistics Division wood consumption data and World bank population statistics, in combination with the national average per capita woody biomass consumption. The reported volumes of fuelwood consumed in cubic meters are converted to metric tonnes using the FAO default conversion factor. Finally, consumed volumes of commercial forest products — including manufacturing, construction and non-fuel industry — are converted to metric tonnes using a biomass conversion and expansion factor provided for the region. The total woody biomass consumption for Vietnam is as per the updated f_{NRB} report /32/ prepared by C4Ecolution is estimated to be 37,026,218 t/yr, which is deemed appropriate to the VVB.

In Viet Nam seven ecological zone has been found i.e., subtropical humid forest, subtropical mountain system, tropical dry forest, tropical moist forest, tropical mountain system, tropical rainforest, tropical shrubland and the same was verified by referring the FAO data through web-research. VVB has noted that in the report /32/ geospatial data products for Viet Nam were analysed in R13-17 to estimate Vietnam renewable biomass. The woody cover from all areas defined as “forest” (>10%) cover “other wooded land” (5-10% cover) as well as “other land” (<5% cover), according to the FAO definitions for 2000 and 2020 was estimated using Hansen/UMD/Google/USGS/NASA spatial data, which is derived from Hansen et al.

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

The default age-weighted mean annual increment (MAI) estimates of each ecological zone, as reported by the IPCC, were used for the study, checked, and confirmed by the VVB. The proportion of forest stand ages above and below 20 years old were estimated for each ecological zone by extrapolating the observed forest gain extents between 2000 and 2012 to a 20-year period. Where primary forest growth rates are available, they were applied based on the primary forest extent data published by Turubanova et al. The resulting average MAI estimates for Vietnam are 1.05, 0.52, 1.71, 0.87, 0.37, 1.41, 1.78 t/ha/year for the subtropical humid forest, subtropical mountain system, tropical dry forest, tropical moist forest, tropical mountain system, tropical rainforest, tropical shrubland respectively.

As per paragraph 13 of the Tool 30 version 04.0,

“If the f_{NRB} value is estimated at the national level, as a cross check, project proponent shall compare the value of estimated NRB with the product of: i) total average above ground biomass tonnage of the area of forest areas deforested in recent past (tonnes/ha), and ii) most recent available observed annual rate of deforestation (ha/yr). If the estimated NRB value is more than 10% above the value calculated as per the product of biomass and deforestation rate, justification shall be provided for the higher value for NRB.”

EPIC based on review of updated f_{NRB} report prepared by C4 Eco Solutions (Pty) Ltd /32/ confirms that the above requirement of tool 30 has been followed and the justification has been provided, which is deemed acceptable to the validation team. The excerpt of f_{NRB} report /32/ is as below:

“The resulting non-renewable biomass (NRB) was compared to the top-down product of average above-ground biomass (62.71 t/ha) and the most recent annual deforestation data (207,461 ha/yr). NRB, as calculated in this report according to the CDM Tool 30 v4.0 2022, was found to be 32,630,986 t/yr, which is greater than the cross-check results based on deforestation (13,009,879 t/yr). It is expected that the cross-check estimate of biomass loss from deforestation could underestimate the extent of non-renewable biomass consumption as it only considers the average biomass stocks from completely deforested areas. The cross-check considers unsustainable wood harvesting resulting in forest degradation and substantial reductions in biomass stocks, but not complete deforestation. Consequently, the estimate of NRB is considered applicable for this study given that the guidance provided by CDM Tool 30 v4.0 2022 was followed.

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

The difference between woody biomass consumption and renewable biomass is non-renewable.

Ecological Zone	Total forest cover (ha)	Protected cover (ha)	Remote cover (ha)	MAI (t/ha/yr)	Renewable biomass (t/yr)
Subtropical humid forest	449,647	13,536	112,574	0.85	274,021
Subtropical mountain system	74,563	327	16,967	0.52	29,494
Tropical dry forest	428,482	61,861	131,524	1.29	304,114
Tropical moist forest	5,105,505	1,236,174	1,373,969	0.84	2,096,596
Tropical mountain system	1,807,758	224,585	786,494	0.27	211,188
Tropical rainforest	3,179,349	501,257	1,598,386	1.31	1,413,108
Tropical shrubland	172,131	28,234	84,494	1.12	66,711
Total	11,217,436	2,065,975	4,104,408		4,395,232

Non-renewable biomass utilisation in Viet Nam is, therefore, validated as 37,026,218 t/yr. The fraction of non-renewable biomass is the quotient of the non-renewable and the total biomass. The fraction of non-renewable biomass for Viet Nam is, therefore, validated as 0.88.

From the review of updated report/spread sheet /32/ and interviews with the PP and C4 EcoSolutions (Pty) Ltd, the verification teams confirm the following:

- The report has been prepared by an independent party (i.e., C4 Eco Solutions (Pty) Ltd.), who is experienced in conducting such study.

- The detailed methodology (including the calculation) of conducting the study has been provided in the report /spread sheet /32/.
- The study has been done in accordance with the CDM Methodological Tool: “Calculation of fraction of non- renewable biomass” (v04.0) including the equation used and the data source as required by the tool.
- All the reference and data source used for the calculation/study as listed in the f_{NRB} report has been assessed by the VVB.

In addition, as per the latest version of methodology VMR 0006 “Energy efficiency and fuel switch measures in thermal applications”, version 1.2, following uncertainty deduction must be applied, depending on the procedure for f_{NRB} used from AMS-II.G.:

- 1) If the default value for f_{NRB} from TOOL33 is applied: $u_d = 0$
- 2) If f_{NRB} is calculated as per TOOL30: $u_d = 26\%$
- 3) If f_{NRB} from an approved standardized baseline is applied: $u_d = 26\%$

Since the f_{NRB} which was updated was calculated by third Party C4Ecosolutions using TOOL30 as verified above by reviewing the updated f_{NRB} report of C4 EcoSolutions (Pty) Ltd /32/. the application of $u_d = 26\%$ would make the value of F_{NRB} more conservative.

$$\text{The revised } f_{NRB} = 0.8813 * (1-0.26) = 0.6522$$

The verification team of EPIC assess the methodology application and application of formula as per VMR006, version 1.2, and finds that the deviation mentioned by the CME is deemed appropriate as the uncertainty reduction of the value of f_{NRB} make the calculation of Emission reduction more conservative, and in line with requirement of VMR006, version 1.2 so the deviation is in compliance with the VCS rules. In addition, this deviation does not impact the applicability of the methodology, additionality and the appropriateness of the baseline scenarios. Thus, the verification team of EPIC accept it.

3.3 New Project Activity Instances in Grouped Projects

N/A

No new project activity instances included under this grouped project during this monitoring period.

3.4 Baseline Reassessment

Did the project undergo baseline reassessment during the monitoring period?

☐ Yes

☒ No

4 VERIFICATION FINDINGS

4.1 Project Details

Item	Evidence gathering activities, evidence checked, and assessment conclusion:				
Audit history	Audit type	Period	Program	Validation/verification body name	Number of years
	Validation	24 Aug 2021 <i>(the date of remote audit)</i>	VCS	Carbon Check (India) Private Ltd	N/A
	1st Verification	01-November-2021 to 30-November-2022	VCS	Carbon Check (India) Private Ltd	1.08
	2nd verification	01-December 2022 to 30-June-2023	VCS	EPIC Sustainability Services Pvt. Ltd	0.58
Double counting and participation under other GHG programs	On the basis of reviewing the registered VCS Project Description /23/, the MR of this verification period /01/, VERRA registry, and supporting documents made available to the verifier and information collected through performing interviews during the on-site assessment to confirm the audit history and project's compliance to the requirement of Rotation of validation/verification bodies as per 4.1.27 of VCS Standard, version 4.5.				
	On the basis of reviewing the registered VCS PD /23/ & corresponding validation report /23/, MR /01/, distribution database /15/ & beneficiary agreement /06/ and interviews with the representative of project proponent, each ICS under project is uniquely identifiable /10/ and would be assured that it is not part of any other VCS project. Each project activity instance is uniquely identifiable /10/ by unique system to avoid the double counting. The measures to avoid double counting are deemed acceptable to the verification team.				

	Through interviews with PP during onsite assessment, the verification team can confirm that all the project instances have not participated or been rejected under any other GHG Programs and emission allowance trading program including renewable energy certificates (RECs) since validation. All the project instances have applied only under VCS for registration and the same has been cross verified by the verification team by exploring /checking/visiting other GHG programs like, GS, CDM, GCC etc or non-GHG program like REC, iRECs, etc.
No double claiming with emissions trading programs or binding emission limits	All the project instances have applied only under VCS for registration. It has been cross verified by the verification team by exploring /checking/visiting other GHG programs like, GS, CDM, GCC etc or non-GHG program like REC, iRECs, etc. So, there would be no double claiming with other emissions trading programs. The Project proponent has also submitted declaration /18/ to confirm that all the project instances have not or shall not claim carbon credits on any other scheme after Registration of the project under VCS. In addition, the verification team also reviewed the local regulation and confirmed that there is no system that creates binding limits on the total GHG emissions or emissions per unit of output or activity from a site, company, sector, or region of this project activity but does not include emissions trading.
No double claiming with other forms of environmental credit	All the project instances have applied only under VCS for registration. It has been cross verified by the verification team by exploring/checking/visiting other GHG programs like, GS, CDM, GCC etc or non-GHG program like REC, iRECs, etc. So, there would be no double claiming with other forms of environmental credit. The Project proponent has also submitted declaration /17/ to confirm that all the project instances have not or shall not double claiming with any other form of environmental credit under any specific program.
Supply chain (scope 3) emissions double claiming	The project is in supply chain involved Viet Charcoal as the producer & SIPCO as the sponsor and distributor & household as the end-users. Thus: The SIPCO (as the distributor) has an agreement in place with end-users who use SDWPs in the project instances in which the owner transfers the rights to the emissions reductions exclusively to the SIPCO as part of the Carbon Rights Waiver within the Beneficiary agreement /06/. The verification team during onsite assessment also interview with different end-users and confirmed that they have agreed to transfer all the carbon rights to SIPCO.

	As the sponsor and distributor of SDWP Ecozen-25 for end-users, SIPCO also officially informed Viet Charcoal via email that VCU can be issued for the SDWP Ecozen-25 usage associated with Ecozen-25 manufactured by Viet Charcoal, distributed by SIPCO under this project which have SIPCO as a sole project participant. This statement also was publicly announced on their website (https://carbonvietnam.com/public-announcement-on-grouped-projects-for-water-purifiers-for-climate-and-community-action-project-id-2557) In conclusion, the PP has implemented all possible measures to avoid potential risk of Scope 3 emissions double claiming. Therefore, the verification team accepts it.
Sustainable development contributions	The project activity has distributed 364,000 SDWPs to households in this monitoring period to provide clean drinking water to the households. This activity helps reduce the total fuel wood usage in the project area which was used to boil water in the absence of project activity and generated 320,887 tCO₂ of emission reduction as verified during onsite interview with stakeholders, distribution database /15/, MR /01/ & excel calculation sheet /02/. During the onsite interview with different stakeholders & end-users, the verification team also conducted interview to confirm with end-users if project activity has contributed to the income increases through money and time saving. All the female in the household said that the SDWP helps them reduce time to collect wood and boil water and therefore, more time to engage in other employment opportunities. The SDWP helps generate high quality water and help prevent water-borne diseases. The reduction of using traditional cookstove to boil water also leads to the reduction of smoke, dust which creates indoor air pollution. The project also generated employment opportunities for assembling of SDWPs, distribution of SDWPs and post-sale operation & maintenance of SDWPs. This is confirmed by the on-site interview with different stakeholders and registered VCS PD /23/, MR /01/ & excel calculation sheet /02/. On the basis of that, the verification team can confirm that the project has implemented the activities that result in the SD contributions described in the MR /01/.
Additional information relevant to the project	On the basis of reviewing registered VCS PD & validation report /23/, MR /01/, the verification team can confirm no sensitive information has been excluded from the public versions of project documents.

4.2 Safeguards and Stakeholder Engagement

4.2.1 Stakeholder Identification

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Stakeholder identification	On the basis of reviewing registered VCS PD /23/ and MR /01/, the verification team found that the stakeholder identification process is in place to distinguish which parties/ entities/ individuals are classified as stakeholders in this project activity. All the stakeholders who can influence or directly/ indirectly affected by the implementation of this project activity have been correctly identified. The verification team has cross-checked with the local stakeholder participant list, consultation meeting records /08/ and finds all the identified stakeholders has been involved by the project activity in the consultation process and therefore accepts this.
Legal or customary tenure/access rights	N/A. The project activity only involves distribution of SDWPs to households free of charge /12/ and the households can decide to receive them or not as per beneficiary agreement /06/. It will not involve any legal or customary tenure/access rights to territories and resources. This has been verified during onsite interview with different stakeholder.
Stakeholder diversity and changes over time	On the basis of reviewing registered VCS PD & validation report/23/, MR /01/, local stakeholder consultation supportive document /08/ and ongoing communication report /28/, onsite observation and interview with different stakeholders, the verification team found insignificant change in stakeholder diversity. There is no change in entities involved in this project activity includes Women Union, local government authority, local manufacturers, local vendor, etc. Their structure, functionality and activity are still the same. There might be changes in the personnel, but it doesn't impact their opinion & comments for the project activity on behalf of their organization as confirmed onsite. For the end-user, during onsite visits, the verification team has observed that it is still the same group. They confirmed that there was a slight

	improvement in terms of income & livelihood and well-being, but this did not bring any significant change in their social status and their opinions.
Expected changes in well-being	The project activity is contributing to the reduction in GHG emission due to reduction in use of non-renewable biomass as verified by onsite observation, reviewing of supportive documents include registered VCS PD /23/, MR /01/, excel calculation sheet /02/. The health of local end-users is improved due to less indoor air pollution, less time needed to boil water for drinking & collecting wood. The end-users have confirmed during the onsite interview that the project activity allowed them to have more time to work and earn additional income. Overall, the verification team found the project activity has contributed to the increase of local well-being.
Location of stakeholders	All the stakeholders (e.g., Women Union, local government authority, NGO, end-users, etc) are operating and living in the area of project activity which is in the geographical boundary of Vietnam country. This was verified and confirmed during onsite observation and interview with different stakeholders.
Location of resources	The location of resources (woody biomass, SDWP, etc.) is also in the area of project activity which is in the geographical boundary of Vietnam country. This was verified and confirmed during onsite observation and interview with different stakeholders.

4.2.2 Stakeholder Consultation and Ongoing Communication

Item	Evidence gathering activities, evidence checked, and assessment conclusion
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Ongoing consultation	On the basis of reviewing the registered VCS PD & validation report/23/, MR /01/, local stakeholder consultation supportive document /08/, ongoing communication report /28/, and interviews with the PP and stakeholders during the audit, it confirms that the project has a stepwise mechanism for the ongoing communication. SIPCO engages with stakeholders (Women's Union) through annual reports, inspection visit, group discussion & also SIPCO's social media communication. The details of ongoing communication activity are mentioned in the MR /01/ & annually ongoing communication reports /28/. The verification team reviewed and verified those during onsite interview and cross-checked with registered VCS PD /23/ & MR /01/ and confirms the procedure and method for engagement.
Date(s) of stakeholder consultation	30-July-2023. This is the date of SIPCO sending the communication report /28/ of this monitoring period to Women Union. Women's Unions are large organizations at all administrative levels (Commune, District, Province, State) through their network has communicated with other stakeholders of the project activity. This was verified by reviewing the communication reports /28/ & onsite interview with Women Union and different stakeholders.
Communication of monitored results	The monitored results have been properly documented in the communication report /28/ sent to Women Union. It was cross-checked by interviewing Women Union representatives onsite.
Consultation records	The verification team confirmed the method for documenting the outcomes of local stakeholders' ongoing consultation and account of all inputs received through reviewing of communication reports /28/, consultation records /08/ & onsite interview.
Stakeholder input	There are several feedback seen in the annual ongoing communication reports & records /28/ sent to SIPCO, however, those were all positive feedback, no negative comment on water quality and design were received. This has been verified by reviewing all the forms and confirmed this has been reported correctly in the MR /01/.

4.2.3 Free, Prior, and Informed Consent

Item	Evidence gathering activities, evidence checked, and assessment conclusion
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Consent	On the basis of onsite interview, reviewing of registered VCS PD & validation report /23/, MR /01/ & local stakeholder consultation documents /08/ and ongoing communication report /28/ the verification team confirmed that local governmental authority includes Commune People's Committee are well-informed about this project activity in a series of consultation meetings and totally support it as verified by local stakeholders' consultation meeting records /08/ /28/ & onsite interview. In addition, SDWPs distribution is a completely voluntary activity and households in participating villages are free to choose whether they take part or not as per beneficiary agreement /06/. Free, prior, and informed consent takes place before installation.
Outcome of FPIC discussion	As verified through local stakeholders' consultation meeting records /08/ /28/ & onsite interview, the project activity has consent from stakeholders.

4.2.4 Grievance Redress Procedure

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Grievance received and steps taken to resolve the grievance including the outcomes of the resolution	There is no grievance received during this verification period.
Grievance redress procedure	On the basis of onsite interview, reviewing of registered VCS PD /23/, MR /01/ the verification team confirms on the grievance redressal procedure and method for documenting, acknowledge, investigate and address the grievance and account of all grievance received reported in the MR /01/. During onsite visit, the verification team confirms that the end-users and stakeholders know how to raise and send their grievance, but no grievance was made during this monitoring period. Hence the verification team deemed the grievance redressal procedure including the grievance record as appropriate.

4.2.5 Public Comments

Not applicable. No public comments were received for this project activity during this monitoring period.

4.2.6 Risks to Local Stakeholders and the Environment

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Risks to stakeholder participation	No risk was identified to stakeholder participation as verified during onsite visit & interviewed with stakeholder, review of the registered VCS PD /23/ and MR /01/. There is no trade-off or any negative impact to their livelihood, land, food, etc when receiving the SDWPs.
Working conditions	No risk was identified in working condition as verified during onsite visit & interviewed with stakeholder, review of the registered VCS PD /23/ and MR /01/. The PP has employed all their staff in compliance with Viet Nam's Labor Law.
Safety of women and girls	No risk was identified in safety of women and girls as verified during onsite visit & interviewed with stakeholder, review of the registered VCS PD /23/ and MR /01/. The implementation of this project activity is also in partnership with Women Union, a socio-political organization that represents and defends the legal and legitimate rights and interests of Women in Vietnam. Therefore, they would ensure there is no risk of safety of women and girls during project implementation as confirmed during onsite interview.
Safety of minority and marginalized groups, including children	No risk was identified in safety of minority and marginalized groups, including children as verified during onsite visit & interview with stakeholder and review of the registered VCS PD /23/ and MR /01/. The implementation of this project activity is also in partnership with Women Union, a socio-political organization that represents and defends the legal and legitimate rights and interests of Women in Vietnam. Their policies also include childcare, education, community services, to health education. They would ensure there is no risk of Safety of minority and marginalized groups, including children as confirmed during onsite interview.
Pollutants (air, noise, discharges to water, generation of waste, release of hazardous materials)	No risk was identified in any additional pollutants in comparison with the baseline scenario. On the basis of review of the registered VCS PD /23/ and MR /01/, onsite observation and interview with local stakeholder, the project activity has a positive impact in this aspect as it helps reduce air pollutants from wood smoke and improve the air quality indoor.

4.2.7 Respect for Human Rights and Equity

4.2.7.1 Labor and Work

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Discrimination and sexual harassment	On the basis of review of the registered VCS PD /23/ and MR /01/, onsite interview and observation, the verification team found no discrimination and sexual harassment. The PP also have company code of conduct /29/ which indicated clearly that they have no tolerance for any discrimination and sexual harassment.
Management experience	On the basis of review of the registered VCS PD /23/ and MR /01/, onsite interview and observation, they verification team confirmed that SIPCO has been involved in many similar carbon projects and have experience in community engagement. Their management team have more than 10 years' experience in this topic as verified by their business license /29/ and historical projects.
Gender equity in labor and work	On the basis of review of the registered VCS PD /23/ and MR /01/, onsite interview and observation, the verification team found that PP is continuing to promote gender equality in labor and work. The PP have company code of conduct /29/ which indicated clearly that they have no tolerance for any discrimination especially in gender. They also implement this project activity in partnership with Women Union, a socio-political organization that represents and defends the legal and legitimate rights and interests of Women in Vietnam. The Women Union strives for the advancement of women's development and gender equality, representing Vietnamese women to the state and counselling on the protection of women's rights as per confirmed during onsite interview.
Human trafficking, forced labor, and child labor	On the basis of the registered VCS PD /23/ and MR /01/, onsite interview and observation, the verification team found no sign of human trafficking, forced labor and child labor. This is also prohibited as per Vietnam Labor Law and the PP has employed all their staff in compliance with Viet Nam's Labor Law as verified by company code of conduct /29/ & interview with PP during onsite visit.

4.2.7.2 Human Rights

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Human rights	On the basis of the registered VCS PD /23/ and MR /01/, onsite interview and observation, the verification team found that project always respects and promotes the human rights in line with applicable international human right. All the stakeholders can voluntarily participate in the project activity. All the information was shared transparently for all stakeholder and end-users through local stakeholder consultation /08/ and ongoing communication /28/. The contractors/ workers who participated in this project activity also need to follow & comply the PP code of conduct /29/ which also have a rule related to this matter.

4.2.7.3 Indigenous Peoples and Cultural Heritage

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Preservation and protection of cultural heritage	On the basis of the registered VCS PD & validation report /23/, MR /01/, onsite interview and observation, the verification team confirmed that the project activity does not have any activity which bring any negative impact to the indigenous peoples and cultural heritage.

4.2.7.4 Property Rights

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Disputes over rights to territories and resources	On the basis of the registered VCS PD & validation report /23/ and MR /01/, onsite interview and observation, the verification team confirmed that the project activity does not have activity which disputes over rights to territories and resources
Respect for property rights	On the basis of the registered VCS PD & validation report /23/ and MR /01/, onsite interview and observation, the verification team confirmed that the project activity does not involve any property right removal/relocation of property rights holders.

4.2.7.5 Benefit Sharing

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Summary of the benefit sharing plan	Not applicable as the project activity does not involve any property right.
Benefit sharing during the monitoring period	Not applicable as the project activity does not involve any property right.

4.2.8 Ecosystem Health

On the basis of reviewing the registered VCS PD & validation report /23/, MR /01/, observation & interview onsite with different stakeholder, the verification team confirmed that the implementation of the grouped project does not impose any severe impacts on the ecological system in the surrounding areas. In contrast, this project activity will help in reducing the consumption of fuel wood by efficient fuel combustion thereby reducing deforestation and reducing indoor air pollution. Therefore, it has no impact to ecosystem health, so this section is not applicable.

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Impacts on biodiversity and ecosystems	No risk identified at validation
Soil degradation and soil erosion	No risk identified at validation
Water consumption and stress	No risk identified at validation
Usage of fertilizers	No risk identified at validation.

4.2.8.1 Rare, Threatened, and Endangered species

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Species or habitat	On the basis of reviewing the registered VCS PD & validation report /23/, MR /01/, observation & interview onsite with different stakeholder, the verification team confirmed that the implementation of the grouped project does not have any adversely impact habitats for rare, threatened, or endangered species.

4.2.8.2 Introduction of Species

Not applicable.

On the basis of reviewing the registered VCS PD & validation report /23/, MR /01/, observation & interview onsite with different stakeholders, the verification team confirmed that the implementation of the grouped project does not introduce any species to the ecosystem.

4.2.8.3 Ecosystem conversion

Not applicable.

On the basis of reviewing the registered VCS PD & validation report /23/, MR /01/, observation & interview onsite with different stakeholders, the verification team confirmed that the implementation of the grouped project does not involve any ecosystem conversion.

4.3 Accuracy of Reduction and Removal Calculations

The equations and choices provided in the methodology and all other methodological tools are correctly quoted in the MR /01/. The emission reductions of the project instances of the grouped project and project activity instance are calculated using the formulae mentioned in the applied methodologies; AMS-III.AV low greenhouse gas emitting safe drinking water production systems (Version 08.0) /B02/. The verification team has reviewed the emission reduction spread sheets (ER sheets) and checked all the formulae and found they are correct and are in accordance with the monitoring plan of the registered VCS PD /23/ and the applied monitoring methodology.

According to applied methodology AMS- III.AV (Version 08.0) /B02/ the emissions are calculated as below:

Baseline Emission

$$BE_y = QPW_y \times m \times X_{boil} \times SEC \times \sum_i (BL_{fuel,i} \times f_i \times EF_{projected\ fossilfuel,i} \times 10^{-9})$$

Where:

BE_y : Baseline emissions during the year y in (tCO₂e)

QPW_y : Total quantity of purified water by the project in year y (litres).

m : Fraction of functional appliances that are meeting the SDWP standards (%). Only project appliances that (i) use technologies that meet the technology standards as per paragraph 4(b) and (ii) are operating or replaced by an equivalent in service appliance and (iii) deliver microbiologically safe drinking water, are counted for emission reductions.

X_{boil}	: Fraction of the population served by the project activity for which the common practice of water purification is or would have been water boiling. This shall be determined ex-ante through surveys.
SEC	: Specific energy consumption required to boil one litre of water (kJ/L) to be calculated according to paragraphs below
$BL_{\text{fuel},i}$	: Proportions of baseline fuel type I (NRB and/or fossil fuels) used in the absence of the project activity (fraction)
f_i	: Fraction of non-renewable fuel type i used in the absence of the project activity in year y. For biomass it is the fraction of woody biomass that can be established as non-renewable biomass (fNRB). If the baseline fossil fuel, the value to be applied is 1
$EF_{\text{projected fossilfuel},i}$	: Emission factor of the fossil fuel substituted (tCO ₂ /TJ).

Project Emission: No project emission has been considered for the project and it is in compliance with the applied methodology.

Leakage: Where relevant leakage relating to the non-renewable woody biomass shall be assessed as per the relevant procedures of AMS-I. E version 12.0 explained below:

B_y will be multiplied by a net to gross adjustment factor of 0.95 to account for leakages, in which case surveys are not required.

If the equipment currently being utilized is transferred from outside the boundary to the project boundary, leakage is to be considered. This is in compliance with the applied methodology.

Sampling approach: The sampling plan implemented by the PP is in accordance with the applied approved monitoring methodology /B02/ and the registered VCS PD /23/. The CME has appropriately performed stratified random Sampling procedure, reliability levels were set at 95% confidence and 10% precision in line with the applied methodology AMS- III.AV (Version 08.0) /B02/. As the registered VCS PD /23/ mentions the option for stratified random Sampling procedure, it is acceptable to the verification team.

The sampling surveys have been carried out by the well-trained personnel /16/.

Monitoring parameters P_y - Population who consumes the purified water serviced by the project activity in year y. and m - For fraction of functional appliances that are meeting the SDWP Standard. Visual inspection of the premises to see if SDWP is operational and in use. Interview with end user if required to verify that SDWP is still in use (Yes/No).

Monitoring parameter “The fraction of SDWP public distribution network”: Annual check if there is a public distribution network supplying SDWP available and is accessed by the end-users. Visual inspection

of the premises to see if there is any SDWP public distribution network are available and in use. Interview with end user if required to verify if they access to any SDWP public distribution network (Yes/No).

Monitoring parameters include m - For fraction of functional appliances that are meeting the SDWP Standard, P_y Population who consumes the purified water serviced by the project activity in year y, The fraction of SDWP public distribution network and Quality of safe drinking water are the parameters through monitoring sample surveys. Monitoring of the parameters ensures compliance with the applied methodology AMS- III.AV Version 08.0/B02/. Verification team has checked the survey records /14/ and sample size calculation/13/.

PP has applied sampling for the current monitoring period. A confidence/precision level of 95/10 has been used by the PP for all the monitoring parameters determined through applying simple random sampling. Survey has been carried out. This is in accordance with the sampling plan provided in the final registered VCS PD /23/. The sample size calculations for each of the monitoring parameters monitored through the sampling have been provided in the table below. The calculated sample size for the parameter P_y and the fraction of SDWP public distribution network is 43 while taking in view for the outliers and nonresponse CME calculated an additional 20% of the sample to be surveyed. A total of 54 samples were selected. However, for the parameter m there is a deviation in sample size calculation as mentioned in section 3.2.2 of the MR /01/. The sample size for the parameter as calculated by PP is 43.

For the parameter quality of safe drinking water, the calculated sample size (for parameter of interest is a numeric mean value) is less than 30 samples, the Student's t-distribution will be used to calculate the sample size (in accordance with paragraph 13 of standard: sampling and survey for CDM project activities and programmes of activities (version 09.0). The adjusted sample size obtained after applying Student's t-distribution is 7. While taking in view for the outliers and nonresponse CME calculated an additional 20% of the sample to be surveyed, so a total of 9 samples were selected.

The resultant applied sample size by the PP are summarized below:

Parameters	P_y	The fraction of SDWP public distribution network	m	Quality of safe drinking water
Sample size	54	54	43	9
Precision achieved	0%	0%	0%	0%

The verification team of the VVB applied a sampling approach for on-site visits as part of verification in accordance with the paragraph 26 of the Standard: Sampling and surveys for CDM project activities and programmes of activities, Version 09.0. In accordance with the paragraph 28 of the sampling standard, acceptance sampling has been chosen by the verification team and accordingly steps listed in paragraph 29-38 of the sampling standard/B03a/ shall be followed. The verification team has opted for AQL of 0.5% and UQL of 20%; producer risk and consumer risk of 10% in determining the VVB's sample size. Accordingly, we plan to do the interview for 11 households across the PA from the PP's sample size for

the parameter Py and m of project activity for the monitoring period with acceptance number C) as 0. And the sample size by VVB for the parameter the safe quality of water is the same as PP sample size that is 7). It was observed that out of the 11 samples, all the 11 SDWPs were found to be operational and meeting the SDWP standard and this matched with the PP's records and hence no discrepant records were observed with the MR /01/ and ER sheet /02/ and thus c=0. Thus, PP's set of records has been accepted in line with § 33 of the sampling standard, version 09 /B03a/. Verification team has cross verified these sample documents.

As per paragraph 25 of the Sampling Standard, version 09 /B03a/, the verification team have to verify whether the project participants entity have implemented the sampling and surveys according to the sampling plan in the registered monitoring plan. The verification includes determining:

- Whether the required confidence/precision has been met.
- Whether the selected sample was representative of the population.

As per the applied methodology AMS- III.AV low greenhouse gas emitting safe drinking water production systems (Version 08.0) and the registered VCS PD for the grouped project /23/. The necessary confidence / precision of 95/10 each of the parameters are met. This has been cross verified by the verification team from the supporting documents submitted /14/.

Emission reductions have been calculated in accordance with the applied methodology AMS- III.AV version 08 /B01/, and registered VCS PD /23/. The PP has used monitored data and ex-ante fixed data including default values as mandated/permitted by the applied methodology. The values used for calculation of GHG emission reductions have been thoroughly checked by the verification team and was found appropriate and correct.

Table 2: Parameter Determined ex-ante.

Parameter	Unit	Value		Assessment
QPW _{pp}	Liters	PA	QPW _{pp}	- Fixed ex-ante The value has been calculated from the baseline survey records and is in compliance with the applied methodology and is used for the baseline emissions. The baseline survey records has been validated during the first monitoring period.
		PA 1	5.0	
		PA 2	4.98	
		PA 3	5.05	
		PA 4	5.04	
		PA 5	5.12	
		PA 6	5.02	
		PA 7	4.6	
		PA 8	4.82	
		PA 9	4.82	
		PA 10	5.12	
		PA 11	5.15	
		PA 12	5.04	

			<table><tr><td>PA 13</td><td>4.95</td></tr><tr><td>PA 14</td><td>4.88</td></tr><tr><td>PA 15</td><td>5.15</td></tr><tr><td>PA 16</td><td>4.95</td></tr><tr><td>PA 17</td><td>4.99</td></tr><tr><td>PA 18</td><td>5.06</td></tr><tr><td>PA 19</td><td>5.12</td></tr><tr><td>PA 20</td><td>5.10</td></tr><tr><td>PA 21</td><td>5.05</td></tr><tr><td>PA 22</td><td>4.98</td></tr><tr><td>PA 23</td><td>5.02</td></tr><tr><td>PA 24</td><td>5.12</td></tr><tr><td>PA 25</td><td>4.88</td></tr><tr><td>PA 26</td><td>4.45</td></tr><tr><td>PA 27</td><td>4.85</td></tr><tr><td>PA 28</td><td>5.05</td></tr><tr><td>PA 29</td><td>5.13</td></tr><tr><td>PA 30</td><td>5.08</td></tr></table>	PA 13	4.95	PA 14	4.88	PA 15	5.15	PA 16	4.95	PA 17	4.99	PA 18	5.06	PA 19	5.12	PA 20	5.10	PA 21	5.05	PA 22	4.98	PA 23	5.02	PA 24	5.12	PA 25	4.88	PA 26	4.45	PA 27	4.85	PA 28	5.05	PA 29	5.13	PA 30	5.08	
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PA 30	5.08																																							
LS	Years	10	- Fixed ex-ante The valued has been taken from the manufacturer's specifications in compliance with the applied methodology																																					
n _{wb}	%	10	- Fixed ex-ante - Default values from based on the option b as detailed in the applied methodology. PPs signed a distribution contract with the provincial Women's Union, this is an agency with all levels from central to local (village, hamlet), they are close the households and can know exactly these households who are using the traditional cookstove																																					

			for cooking and boil water and they can select the correct beneficiaries. Before starting the distribution of water purifiers at new area, PP conduct a feasibility check (through baseline survey, using random sample) through which the proportion using traditional cookstove to boil water is being confirmed. If the proportion of using other cook stove to boil water is significant, PPs would be conservatively excluded households using fossil fuels and combination of fuels from the proportion of households using the wood to calculate ER. At the time of distribution, households were also checked again also for eligibility criteria 8. Households indicating as their primary fuel anything else than woody biomass were ineligible for the carbon programme. This was ensured before household receiving the water purifier as the households have to commit and sign the beneficiary agreement with PP /06/. In case of there were still households using other fossil fuel to boil water, the ER created from them would be discarded. All the information has been verified by checking the supportive document: the distribution agreement /15/. with Viet Nam Women Union, beneficiary agreement /06/, the
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			new baseline surveys reports /07/ & interview with end-users during the onsite visit. Thus the verifier can confirm that the activity to ensure the compliance with criteria 8 has been implemented. In conclusion, the value is verified as PP complies with the criteria 8 as mentioned in section 3.3 of the MR./01-d/.																																														
BL _{fuel,i}	Fraction	<table> <tr> <th>PA</th> <th>BL_{fuel,i}</th> </tr> <tr><td>PA 1</td><td>0.9485</td></tr> <tr><td>PA 2</td><td>0.9638</td></tr> <tr><td>PA 3</td><td>0.9608</td></tr> <tr><td>PA 4</td><td>0.9819</td></tr> <tr><td>PA 5</td><td>0.976</td></tr> <tr><td>PA 6</td><td>0.985</td></tr> <tr><td>PA 7</td><td>0.9266</td></tr> <tr><td>PA 8</td><td>0.9459</td></tr> <tr><td>PA 9</td><td>0.9544</td></tr> <tr><td>PA 10</td><td>0.9548</td></tr> <tr><td>PA 11</td><td>0.9612</td></tr> <tr><td>PA 12</td><td>0.9669</td></tr> <tr><td>PA 13</td><td>0.9759</td></tr> <tr><td>PA 14</td><td>0.9578</td></tr> <tr><td>PA 15</td><td>0.9669</td></tr> <tr><td>PA 16</td><td>0.9789</td></tr> <tr><td>PA 17</td><td>0.9759</td></tr> <tr><td>PA 18</td><td>0.9726</td></tr> <tr><td>PA 19</td><td>0.9458</td></tr> <tr><td>PA 20</td><td>0.9674</td></tr> <tr><td>PA 21</td><td>0.9424</td></tr> <tr><td>PA 22</td><td>0.9392</td></tr> </table>	PA	BL _{fuel,i}	PA 1	0.9485	PA 2	0.9638	PA 3	0.9608	PA 4	0.9819	PA 5	0.976	PA 6	0.985	PA 7	0.9266	PA 8	0.9459	PA 9	0.9544	PA 10	0.9548	PA 11	0.9612	PA 12	0.9669	PA 13	0.9759	PA 14	0.9578	PA 15	0.9669	PA 16	0.9789	PA 17	0.9759	PA 18	0.9726	PA 19	0.9458	PA 20	0.9674	PA 21	0.9424	PA 22	0.9392	- Fixed ex-ante The value is determined from the baseline survey records and is in compliance with the applied methodology and is used for the baseline emissions. In line with the requirement mentioned in PD page 40, PP has conducted the feasibility check in 30 provinces where the distribution has been done during the current monitoring period. Verification team has cross checked the result from the baseline survey submitted by PP /7/.
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PA 30	0.9666																		
f_i	Fraction	0.6522	- Fixed ex-ante The value is established using as per the methodological Tool30 “Calculation of fraction of non-renewable biomass” version 04.0. As per “TOOL30: Calculation of the fraction of non-renewable biomass”. The analysis was independently completed by C4 Ecosolutions (Pty) Ltd /32/. The project description deviation was applied for this value which was verified and documented in section 3.2 of this verification report. An uncertainty reduction of 26% as per VMR006, version 1.2 was also applied. This found to be valid and correct. Thus, the verification team accept it.																
$EF_{\text{projected fossil fuel}}$	tCO2/TJ	85.7	- Fixed ex-ante The value is default value from the AMS-III.AV, Version 08.0 and IPCC, Chapter 2, table 2.2 and used to determined baseline emissions.																
X_{boil}	%	<table> <tr> <td>PA</td> <td>X_{boil}</td> </tr> </table>	PA	X_{boil}	- Fixed ex-ante														
PA	X_{boil}																		

		PA 1	0.9909	The value is determined from the baseline survey and is used to calculate the baseline emissions.
		PA 2	1	
		PA 3	1	
		PA 4	1	
		PA 5	1	
		PA 6	1	
		PA 7	1	
		PA 8	1	
		PA 9	1	
		PA 10	1	
		PA 11	1	
		PA 12	1	
		PA 13	1	
		PA 14	1	
		PA 15	1	
		PA 16	1	
		PA 17	1	
		PA 18	1	
		PA 19	1	
		PA 20	0.9970	
		PA 21	1	
		PA 22	1	
		PA 23	1	
		PA 24	1	
		PA 25	1	
		PA 26	1	
		PA 27	1	
		PA 28	1	
		PA 29	0.9969	
		PA 30	1	
P_h	Fraction	PA	P_h	- Fixed ex-ante. Value is determined from the survey records and is used for the baseline emission calculation.
		PA 1	4.5	
		PA 2	4.42	
		PA 3	4.54	

		PA 4	4.61	
		PA 5	4.52	
		PA 6	4.62	
		PA 7	4.51	
		PA 8	4.52	
		PA 9	4.52	
		PA 10	4.81	
		PA 11	5.01	
		PA 12	4.85	
		PA 13	4.63	
		PA 14	4.83	
		PA 15	4.68	
		PA 16	4.65	
		PA 17	4.48	
		PA 18	4.41	
		PA 19	4.56	
		PA 20	4.62	
		PA 21	4.50	
		PA 22	4.55	
		PA 23	4.64	
		PA 24	4.44	
		PA 25	4.48	
		PA 26	4.7	
		PA 27	4.54	
		PA 28	4.58	
		PA 29	4.72	
		PA 30	4.81	

The spread sheet submitted by the PP clearly and transparently mentions values of the data parameters used for calculation of emission reductions. The input values have been verified from the reliable and authentic sources including monitoring survey records /14/, MR /01/, and applied methodology /B02/. The emission reductions calculated were compared with the emission reduction spread sheet /02/ and found to be correct. No significant reporting risks have been identified for the data reported.

The details of monitoring parameters used for calculation of emission reductions are provided below:

Monitoring Parameter Requirement	Assessment/ Observation by the VVB																																																																																																																																
Data / Parameter: (as in monitoring plan of VCS PD):	Population who consumes the purified water serviced by the project activity in year y P_y																																																																																																																																
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Reported value:	<table border="1"> <thead> <tr> <th>PA</th><th>N_y</th><th>P_h</th><th>$P_y = N_y \times P_h$</th></tr> </thead> <tbody> <tr><td>1</td><td>14,000</td><td>4.5</td><td>63,000</td></tr> <tr><td>2</td><td>12,000</td><td>4.42</td><td>53,040</td></tr> <tr><td>3</td><td>12,000</td><td>4.54</td><td>54,480</td></tr> <tr><td>4</td><td>11,000</td><td>4.61</td><td>50,710</td></tr> <tr><td>5</td><td>14,000</td><td>4.52</td><td>63,280</td></tr> <tr><td>6</td><td>14,000</td><td>4.62</td><td>64,680</td></tr> <tr><td>7</td><td>7,000</td><td>4.51</td><td>31,570</td></tr> <tr><td>8</td><td>16,000</td><td>4.52</td><td>72,320</td></tr> <tr><td>9</td><td>9,000</td><td>4.52</td><td>40,680</td></tr> <tr><td>10</td><td>12,000</td><td>4.81</td><td>57,720</td></tr> <tr><td>11</td><td>18,900</td><td>5.01</td><td>94,689</td></tr> <tr><td>12</td><td>12,000</td><td>4.85</td><td>58,200</td></tr> <tr><td>13</td><td>12,000</td><td>4.63</td><td>55,560</td></tr> <tr><td>14</td><td>11,780</td><td>4.83</td><td>56,897</td></tr> <tr><td>15</td><td>12,100</td><td>4.68</td><td>56,628</td></tr> <tr><td>16</td><td>12,150</td><td>4.65</td><td>56,498</td></tr> <tr><td>17</td><td>12,100</td><td>4.48</td><td>54,208</td></tr> <tr><td>18</td><td>8,710</td><td>4.41</td><td>38,411</td></tr> <tr><td>19</td><td>12,000</td><td>4.56</td><td>54,720</td></tr> <tr><td>20</td><td>19,110</td><td>4.62</td><td>88,288</td></tr> <tr><td>21</td><td>10,000</td><td>4.50</td><td>45,000</td></tr> <tr><td>22</td><td>9,000</td><td>4.55</td><td>40,950</td></tr> <tr><td>23</td><td>12,000</td><td>4.64</td><td>55,680</td></tr> <tr><td>24</td><td>12,000</td><td>4.44</td><td>53,280</td></tr> <tr><td>25</td><td>11,000</td><td>4.48</td><td>49,280</td></tr> <tr><td>26</td><td>8,000</td><td>4.7</td><td>37,600</td></tr> <tr><td>27</td><td>12,000</td><td>4.54</td><td>54,480</td></tr> <tr><td>28</td><td>11,000</td><td>4.58</td><td>50,380</td></tr> <tr><td>29</td><td>15,150</td><td>4.72</td><td>71,508</td></tr> <tr><td>30</td><td>12,000</td><td>4.81</td><td>57,720</td></tr> <tr> <td>Total</td><td>364,000</td><td></td><td>1,681,457</td></tr> </tbody> </table>	PA	N_y	P_h	$P_y = N_y \times P_h$	1	14,000	4.5	63,000	2	12,000	4.42	53,040	3	12,000	4.54	54,480	4	11,000	4.61	50,710	5	14,000	4.52	63,280	6	14,000	4.62	64,680	7	7,000	4.51	31,570	8	16,000	4.52	72,320	9	9,000	4.52	40,680	10	12,000	4.81	57,720	11	18,900	5.01	94,689	12	12,000	4.85	58,200	13	12,000	4.63	55,560	14	11,780	4.83	56,897	15	12,100	4.68	56,628	16	12,150	4.65	56,498	17	12,100	4.48	54,208	18	8,710	4.41	38,411	19	12,000	4.56	54,720	20	19,110	4.62	88,288	21	10,000	4.50	45,000	22	9,000	4.55	40,950	23	12,000	4.64	55,680	24	12,000	4.44	53,280	25	11,000	4.48	49,280	26	8,000	4.7	37,600	27	12,000	4.54	54,480	28	11,000	4.58	50,380	29	15,150	4.72	71,508	30	12,000	4.81	57,720	Total	364,000		1,681,457
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Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes																																																																																																																																

Details of monitoring equipment:	Value obtained from monitoring survey of samples /07//13/ and data base /28/.
If applicable, has the reported data been cross-checked with other available data?	Yes, the reported data in MR has been compared with monitoring survey records /07//13/ and the ER sheet /02/. The total number of SDWPs has been cross checked with the database /28/ and evidence to demonstrate water purifier as free of cost to the user /12/ as provided by the PP.
How were the values in the monitoring report verified?	NA
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA

Monitoring Parameter Requirement	Assessment/ Observation by the VVB														
Data / Parameter: (as in monitoring plan of VCS PD):	Quantity of purified water in year y QPW _y														
Measuring frequency/Time Interval:	Annual														
Reporting frequency:	Annual														
Reported value:	<table> <tr> <th>PA</th><th>QPW_y</th></tr> <tr> <td>1</td><td>66,780,000</td></tr> <tr> <td>2</td><td>52,361,194</td></tr> <tr> <td>3</td><td>55,325,144</td></tr> <tr> <td>4</td><td>53,422,856</td></tr> <tr> <td>5</td><td>68,686,643</td></tr> <tr> <td>6</td><td>68,835,043</td></tr> </table>	PA	QPW _y	1	66,780,000	2	52,361,194	3	55,325,144	4	53,422,856	5	68,686,643	6	68,835,043
PA	QPW _y														
1	66,780,000														
2	52,361,194														
3	55,325,144														
4	53,422,856														
5	68,686,643														
6	68,835,043														

		7	28,695,867		
		8	73,899,469		
		9	41,568,451		
		10	58,892,994		
		11	103,381,450		
		12	62,185,536		
		13	58,304,664		
		14	58,863,774		
		15	61,826,450		
		16	59,288,477		
		17	51,980,311		
		18	41,204,355		
		19	56,881,717		
		20	95,032,143		
		21	48,177,000		
		22	43,233,372		
		23	59,256,883		
		24	57,832,243		
		25	50,983,117		
		26	35,471,840		
		27	56,016,336		
		28	53,936,828		
		29	77,769,240		
		30	58,917,092		
		Total	1,759,010,491		
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes			
	Details of monitoring equipment:	NA, value is based on the equation: $QPW_y = P_y \times QPW_{pp} \times \text{Number of operating days}$ <i>Number of operating days in this monitoring period (01-December-2022 to 30-June-2023) is 212 days</i>			
	If applicable, has the reported data been cross-checked with other available data?	Yes, the reported data in MR has been compared with monitoring survey records /07//13/ and the ER sheet /02/. The total number of SDWPs has been cross checked with the database /28/ and evidence to demonstrate water purifiers as free cost /12/ as provided by the PP.			
	How were the values in the monitoring report verified?	The value has been verified by the distribution records and by checking the calculations from ER sheet			

Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA

Monitoring Parameter Requirement	Assessment/ Observation by the VVB
Data / Parameter: (as in monitoring plan of VCS PD):	m, Fraction of functional appliances that are providing the SDWP
Measuring frequency/Time Interval:	Annual
Reporting frequency:	Annual
Reported value:	1
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Details of monitoring equipment:	NA
If applicable, has the reported data been cross-checked with other available data?	Yes, the reported data in MR has been compared with Microbiological testing certificate /11/ and the ER sheet /02/. Verification team confirms that the Microbiological testing certificate of Department of Environmental Quality Analysis (Institute of Environmental Technology) is a third party who conducted the test and the Center's laboratories have been recognized by VILAS in accordance with international standards ISO/IEC 17025 since 2021 and continue to be accredited until now /26/ which also

	comes under Ministry Of Science and Technology Bureau. This satisfies the requirement of of para. 4 (c) of Data/Parameter table 11 and Box 3 of AMS-III.AV, v.08.0. As per explanation in section 4.1 of MR, the sampling plan has included the provision to collect information for records of replacement of appliances, filters, and maintenance in accordance with registered VCS PD /23/. The people in charge of sampling are also required to collect information and records of replacement of appliances, filters and maintenance of sampled end-user if any. In addition, during the distribution PP has instructed end-users whenever they suspect any damaged or defective of the SDWPs, end-users will inform PP immediately so PP can conduct maintenance or replacement of the components of SDWP. The replacement/ maintenance records are signed by end-user and archived & recorded in the database system and traceable base on SDWP serial number. This was used by PP to cross check with the information collect onsite. During this monitoring period, all the sampled SDWP are in good condition, and there was no maintenance & replacement activity was recorded. This information has been verified by checking the database /28/, interviewed with end-users during onsite visit.
How were the values in the monitoring report verified?	The value has been verified by microbiological testing report and interview with the PP.
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in	NA

accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?

Monitoring Parameter Requirement	Assessment/ Observation by the VVB
Data / Parameter: (as in monitoring plan of VCS PD):	Check for SDWP public distribution network
Measuring frequency/Time Interval:	Annual
Reporting frequency:	Annual
Reported value:	1 (No public distribution network supplying SDWP is installed at project area)
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Details of monitoring equipment:	NA
If applicable, has the reported data been cross-checked with other available data?	Yes, the reported data in MR has been compared with the confirmation from local authorities, which is the provincial Women's Union /25/. Women's Union is an agency with all levels from national to local (village, hamlet). The provincial Women's Union through their network at village & hamlet can know exactly if there is any public distribution network supplying SDW in that area or not. So, before distributing at new area, PP required the provincial Women Union to send an official letter to confirm that the WP distribution locations are places that do not have access to clean water. This confirmation /25/ has been verified by VVB. The random survey by questionnaires for end user were also used to check if there is a public distribution network supplying SDW is installed also.

	Thus, verification team through checking the confirmation and interview with end-user during onsite visit can confirm that the monitoring of this parameter complies with the requirements detailed in Data / Parameter table 13 of AMS-III.AV, v.08.0.
How were the values in the monitoring report verified?	The value has been verified by interviewing the end users during the site visit to cross check the information provided in the monitoring survey records and also by interviewing the PP.
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA

Monitoring Parameter Requirement	Assessment/ Observation by the VVB
Data / Parameter: (as in monitoring plan of VCS PD):	Quality of safe drinking water
Measuring frequency/Time Interval:	Once every two years
Reporting frequency:	Once every two years
Reported value:	-
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Details of monitoring equipment:	NA

If applicable, has the reported data been cross-checked with other available data?	Quality of safe drinking water is confirmed by Third party. Annually, 09 samples for grouped project were sampled and tested. All treated water samples are confirmed to meet the Viet Nam Drinking water Standard and the same has been crosschecked by the microbiological testing report /11/ and by interviewing all 07 samples and PP during the site visit.
How were the values in the monitoring report verified?	The value has been verified by interviewing all the 07 end users during the site visit to cross check the information provided in the monitoring survey records and also by interviewing the PP.
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA

The verifier based on the above verified equations and the parameter values to replicate the annual emission reductions calculation as table below:

PA	QPW _y	m	X _{Boil}	BL _{fuel,i}	SEC	Fi	EF _{fossilfuel,i}	BE _y	LE _y	ER _y
PA 1	66,780,000	1	0.9909	0.9485	3574.8	0.6522	85.7	12,541	627	11,914
PA 2	52,361,194	1	1	0.9638	3574.8	0.6522	85.7	10,083	504	9,579
PA 3	55,325,144	1	1	0.9608	3574.8	0.6522	85.7	10,622	531	10,091
PA 4	53,422,856	1	1	0.9819	3574.8	0.6522	85.7	10,481	525	9,956
PA 5	68,686,643	1	1	0.976	3574.8	0.6522	85.7	13,395	670	12,725
PA 6	68,835,043	1	1	0.985	3574.8	0.6522	85.7	13,547	677	12,870
PA 7	28,695,867	1	1	0.9266	3574.8	0.6522	85.7	5,312	265	5,047
PA 8	73,899,469	1	1	0.9459	3574.8	0.6522	85.7	13,967	698	13,269
PA 9	41,568,451	1	1	0.9544	3574.8	0.6522	85.7	7,927	396	7,531
PA 10	58,892,994	1	1	0.9548	3574.8	0.6522	85.7	11,236	562	10,674
PA 11	103,381,450	1	1	0.9612	3574.8	0.6522	85.7	19,855	993	18,862
PA 12	62,185,536	1	1	0.9669	3574.8	0.6522	85.7	12,014	601	11,413

PA 13	58,304,664	1	1	0.9759	3574.8	0.6522	85.7	11,369	568	10,801
PA 14	58,863,774	1	1	0.9578	3574.8	0.6522	85.7	11,265	563	10,702
PA 15	61,826,450	1	1	0.9669	3574.8	0.6522	85.7	11,945	597	11,348
PA 16	59,288,477	1	1	0.9789	3574.8	0.6522	85.7	11,597	580	11,017
PA 17	51,980,311	1	1	0.9759	3574.8	0.6522	85.7	10,136	507	9,629
PA 18	41,204,355	1	1	0.9726	3574.8	0.6522	85.7	8,007	401	7,606
PA 19	56,881,717	1	1	0.9458	3574.8	0.6522	85.7	10,749	537	10,212
PA 20	95,032,143	1	0.9970	0.9674	3574.8	0.6522	85.7	18,314	916	17,398
PA 21	48,177,000	1	1	0.9424	3574.8	0.6522	85.7	9,072	453	8,619
PA 22	43,233,372	1	1	0.9392	3574.8	0.6522	85.7	8,113	405	7,708
PA 23	59,256,883	1	1	0.9699	3574.8	0.6522	85.7	11,483	574	10,909
PA 24	57,832,243	1	1	0.9518	3574.8	0.6522	85.7	10,998	550	10,448
PA 25	50,983,117	1	1	0.9578	3574.8	0.6522	85.7	9,757	488	9,269
PA 26	35,471,840	1	1	0.9634	3574.8	0.6522	85.7	6,828	342	6,486
PA 27	56,016,336	1	1	0.9398	3574.8	0.6522	85.7	10,519	526	9,993
PA 28	53,936,828	1	1	0.9459	3574.8	0.6522	85.7	10,194	510	9,684
PA 29	77,769,240	1	0.9969	0.9729	3574.8	0.6522	85.7	15,071	753	14,318
PA 30	58,917,092	1	1	0.9666	3574.8	0.6522	85.7	11,379	570	10,809

In conclusion, all data and values used by the PP for calculation of emission reduction are verified from reliable and authentic sources including monitoring survey records /07//13//14/, MR /01/, and applied methodology /B02/. The emission reductions calculated were compared with the emission reduction spread sheet /02/ and found to be correct. All estimates of the baseline emissions, leakage emissions can be replicated using the data and parameter values provided in the MR. No significant reporting risks have been identified for the data reported. Therefore, we confirmed that GHG emission reductions and removals have been quantified correctly in accordance with the project description and applied methodology.

4.4 Quality of Evidence to Determine Reductions and Removals

EPIC verification team was able to confirm that the calculations are based on authentic data and the Emission reduction spreadsheets /02/ used to calculate the VCUs calculations and all figures were tracked, checked, and found to be consistent.

The quality of supporting evidence submitted to the VVB for verification is adequate and found to be verifiable. The transfer of carbon rights and other supporting documents related to quality and maintenance were checked by the verification team during the on-site audit to confirm the authenticity of the documents and to check the correctness of the calculation.

When verifying the reported emission reductions, EPIC ensured that there was a clear audit trail that contained the evidence and records that validate the stated figures. All source of documents that form the basis for assumptions and other information underlying the GHG data were checked by the verification team.

When assessing the audit trails, EPIC also examined:

1. Whether sufficient evidence was available, both in terms of frequency and in covering the full monitoring period
2. The source and nature of the evidence.
3. If comparable information was available from sources other than that used in the monitoring report, EPIC cross-checked the monitoring report against the other sources to confirm that the stated figures were correct.

EPIC also assessed that the data collection system met the requirements of the monitoring plan as per the applied methodology /B02/.

Proper data management inclusive of data acquisition and aggregation, data management system is being followed for the project activity.

Therefore, Verification Team of EPIC, hereby confirms that the evidence used to determine the GHG emission reductions are sufficient in quantity and appropriate in quality.

4.5 Non-Permanence Risk Analysis

N/A

There is no requirement for non-permanence risk analysis for this project.

5 VERIFICATION OPINION

5.1 Verification Summary

EPIC Sustainability Services Private Limited, (the VVB) has performed the second (2nd) emission reduction verification of the registered VCS project activity “Grouped projects for water purifiers for climate and community action” having VCS ID; 2557. The scope of the activities covers the verification and certification of GHG emissions reductions reported in latest monitoring report /O1/. And this report summarizes the findings of the verification of the project, performed on the basis of VCS criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

The project activity falls under the group project which involves the distribution of safe drinking water purifiers (SDWPs) in rural communities with no previous water purifiers access. The verification process was performed on the basis of all guidance and criteria as provided in VCS Standard version 4.5 /B01-a/, VCS Program Guide version 4.4 /B01-b/, VCS Validation and Verification Manual version 3.2 /B01-c/ and Registration & Issuance Process version 4.4 /B01-d/.

The component project activities (PA1, PA2, PA3, P4, PA5, PA6, PA7, PA8, PA9, PA10, PA11, PA12, PA13, PA14, PA15, PA16, PA17, PA18, PA19, PA20, PA21, PA22, PA23, PA24, PA25, PA26, PA27, PA28, PA29

and PA30) were correctly implemented according to selected monitoring methodology, monitoring plan and the registered VCS PD /23/ for the group project activity. The monitoring system was installed, maintained in a proper manner, while collected monitoring data allowed for the verification of the amount of achieved GHG emission reductions. Through the review and on-visit the verification team confirms that the project activity has resulted in emission reductions of 320,887 tCO₂e during the second (02nd) monitoring period 01-December 2022 to 30-June-2023 as per MR /01/.

5.2 Verification Conclusion

EPIC as a VVB is able to issue a positive verification opinion expressed in the attached Certification statement. And as the result of verification of the project activity of this grouped project, the verifier confirms that the GHG emission reductions are calculated without material misstatements in a conservative and appropriate manner. EPIC Sustainability Services Private Limited herewith confirm that the project has achieved emissions reductions in the below mentioned reporting period as follows. The project complies with the verification criteria for projects and their GHG emissions reductions or removal set out in VCS criteria. Verified GHG emission reductions and removals in this verification period is as below:

Verification period: From 01-December 2022 to 30-June-2023

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

Vintage period	Baseline emissions (tCO ₂ e)	Project emissions (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Reduction VCUs (tCO ₂ e)	Removal VCUs (tCO ₂ e)	Total VCUs (tCO ₂ e)
01-Dec-2022 to 31-Dec-2022	45,328	0	2,268	43,060	0	43,060
01-Jan-2023 to 30-Jun-2023	292,448	0	14,621	277,827	0	277,827
Total	337,776	0	16,889	320,887	0	320,887

5.3 Ex-ante vs Ex-post ERR Comparison

Vintage period	Ex-ante estimated reductions/removals	Achieved reductions/removals	Percent difference	Explanation for the difference
01-Nov-2022 to 31-Dec-2022	50,863	43,060	15%	The number of SDWPs that were distributed is smaller than the number that was planned in the registered VCS PD.
01-Jan-2023 to 30-Jun-2023	296,987	277,827	6%	

Total	347,850	320,887	7%	
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APPENDIX 1: COMMERCIALLY SENSITIVE INFORMATION

Not Applicable.

No commercially sensitive information included in the monitoring report to be excluded in the public version.

APPENDIX 2: ABBREVIATIONS

AQL	Acceptable Quality Level
BAU	Business As Usual
CA	Corrective Action / Clarification Action
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CL	Clarification Request
CO₂	Carbon Dioxide
CO_{2e}	Carbon Dioxide Equivalent
DVR	Draft Validation Report
EB	CDM Executive Board
EF	Emission Factor
EPIC	EPIC Sustainability Services Private Limited
FA	Final Approval
FAR	Forward Action Request
FVR	Final validation Report
GCC	Global Carbon Council
GHG	Greenhouse gas(es)
GS	Gold Standard
GWh	Giga Watt Hour
IPCC	Intergovernmental Panel on Climate Change
MW	Megawatts
MWh	Mega Watt Hour
OSV	On Site Visit
QC/QA	Quality control/ Quality assurance
SDG	Sustainable Development Goal
SIPCO	Sustainability Investment Promotion and Development Joint Stock Company
REC	Renewable Energy Certificate
SDWP	Safe drinking water purifier
TA	Technical Area
TR	Technical Review
UNFCCC	United Nations Framework Convention on Climate Change
UQL	Unacceptable Quality Level
VCS	Verified Carbon Standard
VVB	Validation / Verification Body

APPENDIX 3: REFERENCE DOCUMENTS

Ref	Document
/01/	1. Monitoring report for Grouped projects for water purifiers for climate and community action (version 01; dated: 14/07/2023) 2. Monitoring report for Grouped projects for water purifiers for climate and community action (version 02; dated: 20/09/2023) 3. Monitoring report for Grouped projects for water purifiers for climate and community action (version 03; dated: 10/10/2023)
/02/	ER calculation spread sheet correspond to /01/ "VCS-ER-ID 2557 01DEC2022 - 30JUN2023"
/03/	Evidence for the start date of project activity 1 and the grouped project.
/04/	Technical specifications of the SDWP from manufacturer including the life span
/05/	Proof of right of relinquishment of VCU from the end users to the project proponent
/06/	Beneficiary agreement confirming that the traditional wood stoves were used for boiling water in the baseline situation
/07/	Baseline survey records (for the parameters QPW_{pp} , $BL_{fuel,l}$, X_{boil}) implemented
/08/	Local stakeholders' consultation meeting records.
/09/	Project implementation schedule.
/10/	Evidence of unique identification system of the SDWP.
/11/	Microbiological test report from an accredited laboratory.
/12/	Evidence to demonstrate water purifiers as free of cost to the users.
/13/	Sample survey or reference literature used to determine the types of stoves and fuel used in the baseline scenario.
/14/	Monitoring survey questionnaire template & survey records
/15/	SDWP distribution database
/16/	Training plan/ records of personnel appointed for surveys.
/17/	Declaration from the project proponent that the project is not creating any other form of environmental credit under any specific program.
/18/	Declaration from the project proponent that the project has not or shall not claim carbon credits on any other scheme after Registration of the project under VCS.
/19/	f_{NRB} calculation report from a third party C4 Ecosolutions (Pty) Ltd.

/20/	Evidence for the values used for the ex-ante VER estimation.
/21/	Equipment contract as evidence of the cost for Safe Drinking Water Purifiers.
/22/	1. Public comment Summary 2. Public comments Response 3. Ecozen- 25 Water Final EN.
/23/	Latest VCS Project Description and its corresponding Validation Report
/24/	Documents for simple cost analysis for each project activity.
/25/	Confirmation about safe drinking water system for provinces in this grouped project
/26/	Certificate of accreditation of third-party laboratory who conducted the Microbiological test
/27/	Updated Survey records
/28/	Annual reports by Women Union to SIPCO & by SIPCO to donor
/29/	Company code of conduct
/30/	Grievance records and response from PP
/31/	Grouped project KML file
/32/	Updated f_{NRB} calculation report & spreadsheet from a third party C4 Ecosolutions (Pty) Ltd, May 2023

Background Documents

Ref	Document
/B01/	VCS Requirements a. VCS Standard (v4.5, updated 29-August-2023) b. VCS Program Guide (v4.4, updated 29-August-2023) c. VCS Validation and Verification Manual version (v3.2, dated 19-October-2016) d. Registration & Issuance Process (v4.4, updated 29-August-2023) e. VCS Program Definitions (v4.4, updated 29-August-2023) f. VCS Verification Report template (v4.3, updated 29-August-2023)
/B02/	Applied baseline and monitoring methodology 1. AMS-III.AV: “Low greenhouse gas-emitting safe drinking water production systems”, version 08”
/B03/	a. “Standard for sampling and surveys for CDM project activities and programme of activities” (version 09.0) b. Guidelines for sampling and surveys for CDM project activities and Programme of Activities (version 04)
/B04/	Website and links:

	1. IPCC (http://www.ipcc-nggip.iges.or.jp) 2. http://cdm.unfccc.int 3. http://www.terra.org
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APPENDIX 4: CERTIFICATES OF COMPETENCE

The following Project verification team has been assigned to carry out the project verification of the project.

Name	Ms. Trang Nguyen	Ms. Priyanka M.S	Mr Karthik Lakshman
Role	Lead Auditor	Auditor	Technical Reviewer
Competence in the TA	Sector 1	Sector 1	Sector 1
Responsibility	Doc review, Interview, DVR preparation, DVR resolution, FVR preparation	Doc review, Interview, DVR preparation, DVR resolution, FVR preparation	Technical review

A brief summary of the personnel involved in the project verification is indicated below.

Ms. Trang Nguyen, holds a MSc Degree in Environmental Study and B.Eng Degree in Environmental Engineering. She is qualified as a Lead Auditor for EPIC as per the applicable scheme rules and stipulations.

Ms. Priyanka M.S: holds a bachelor's degree in Environmental Engineering. She is evaluated to be an auditor as per EPIC accreditation procedures.

Mr. Karthik Lakshman holds a B.Tech degree in Mechanical Engineering. He is qualified as an Auditor and Technical Reviewer for EPIC as per the applicable scheme rules and stipulations.

APPENDIX 5: FINDING LOGS

Table 1. CLs from this verification

Finding	CL 01		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding (VVB)	1) In the ER sheet calculation, please breakdown the distribution number for each month to cross-check the information in Table 1: Distribution schedule. In addition, in the ER calculation sheet the verification team found that there are WPs distributed in 2023, in the distribution table, there is no data reported for 2023. Please clarify. 2) Please include the calculation of BEy & LEy in the ER calculation sheet to cross-check the information provided in section 5.		
Corrective Action or clarification #1 <i>(PP shall write a detailed and clear corrective action or further information for clarification as per finding)</i>	1) The project activity was completed distribution in 12/2023. The revised ER sheet has been revised to consistent with MR, version 03 2) Calculation of BEy and LEy has been included in the revised MR, version 03, dated 20.09.23		
VVB Assessment #1 <i>The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.</i>	On the basis of review of the updated ER calculation sheet, it is clear that PP has break-down the distribution numbers of SDWPs per month. The verification team has reviewed the table, cross-checked with the distribution schedule and distribution database and confirmed that information is correctly reported. In addition, the typo mistake was revised also. All the SDWPs was completely distributed in 12/2023. The calculation of BEy & LEy were provided in the ER sheet to verify the numbers reported in the MR.		
Conclusion <i>Tick the appropriate checkbox</i>	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed		

Table 2. CARs from this verification

Finding	CAR 01		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding (VVB)	Throughout the whole MR, the PP is requested to use the consistent format (DD-Month-YYYY) for the date throughout the document as per requirement of VCS Monitoring Report template V.4.3		
Corrective Action or clarification #1 <i>(PP shall write a detailed and clear corrective action or further information for clarification as per finding)</i>	The format date of DD-Month-YYYY has been updated throughout in the revised MR, version 02, dated 20/09/2023		
VVB Assessment #1 <i>The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.</i>	On the basis of review of the updated MR, it is clear that the format (DD-Month-YYYY) for date has been used throughout the MR as per requirement of VCS Monitoring Report template V.4.3.		
Conclusion <i>Tick the appropriate checkbox</i>	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed		

Finding	CAR 02		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding (VVB)	The table in Section 5.4 of the monitoring report does not specify breakdown of GHG emission reductions and removals by calendar year as per requirement of VCS Monitoring Report Template V4.3.		
Corrective Action or clarification #1 <i>(PP shall write a detailed and clear corrective action or further information for clarification as per finding)</i>	The GHG emission reductions and removals have been breakdown by calendar year in the revised VCS Monitoring report, ver 02, dated 20/09/2023		

VVB Assessment #1 <i>The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.</i>	On the basis of review of the updated MR, it is clear that GHG emission reductions and removals have been breakdown by calendar year. The verification team has cross-checked by reviewing the ER calculation sheet and confirmed the breakdown numbers are correct.
Conclusion <i>Tick the appropriate checkbox</i>	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed

Finding	CAR 03		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding (VVB)	The quantity of GHG emission reductions in Monitoring report is not consistent with the quantity of GHG emission reductions calculated in the ER excel sheet. Please review and revise throughout the document.		
Corrective Action or clarification #1 <i>(PP shall write a detailed and clear corrective action or further information for clarification as per finding)</i>	The quantity of GHG emission reductions has been revised to consistent with the quantity of GHG emission reductions in the revised ER excel sheet and MR, version 03		
VVB Assessment #1 <i>The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.</i>	On the basis of review of the updated MR, it is clear that GHG emission reductions and removals have been revised. It is now correctly reported and also consistent with the ER calculation sheet.		
Conclusion <i>Tick the appropriate checkbox</i>	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed		

Finding	CAR 04		
Classification	☒ CAR	☐ CL	☐ FAR

Description of finding (VVB)	In section 4.3 of the Monitoring Plan, the water purifier population for Ecozen age 1 & Ecozen age 2 are not consistent with the number in the ER calculation sheet and the implementation timeline. Please review and revise.
Corrective Action or clarification #1 <i>(PP shall write a detailed and clear corrective action or further information for clarification as per finding)</i>	The number of water purifier population for Ecozen age 1 & age 2 has been updated in revised MR, version 03 to consistent with the ER sheet.
VVB Assessment #1 <i>The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.</i>	On the basis of review of the updated MR, it is clear the SDWP population for Ecozen (age 1 and age 2) has been updated. The verification team has checked with distribution schedule and distribution database and confirmed that those population numbers were correctly revised.
Conclusion <i>Tick the appropriate checkbox</i>	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed