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# GOLD STANDARD FOR THE GLOBAL GOALS (GS4GG)
# REPORT
# -
# VERIFICATION

| | |
|---|---|
| **Project Title**: | GS 12239 VPA-1 Amazi Meza Rwanda Water Supply Project For Schools |
| **Monitoring Period:** | 26/06/2023 to 31/03/2024 |
| **GS project ID**: | 12240 |
| **Internal ID**: | BELL_GS_PoA_VAL_CPA INCL_VER_3424 |
| **Customer:** | Virridy Carbon LLC |
| **Date:** | 17/01/2025 |
| **Revision:** | 03 |

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| **SUMMARY** | | | |
|---|---|---|---|
| **Reference No.** | **Date** (first version) | **Version No.** | **Date** (last version) |
| BELL_GS_PoA_VAL_CPA INCL_VER_3424 | 18/09/2024 | 03 | 17/01/2025 |

| **GS4GG Verification** | |
|---|---|
| **GS4GG Certified Product** (sought)**:** | GHG Emission Reductions |
| **GS4GG SDG Impact Statement** (sought)**:** | Not applicable |

| **General Information** | |
|---|---|
| **Client** | Virridy Carbon LLC |
| **Project Title** | GS 12239 VPA-1 Amazi Meza Rwanda Water Supply Project For Schools |
| **Project Participants** | Virridy Carbon LLC |
| **Project Location** | Rwanda |
| **Contact Person** | Evan Thomas |
| **Monitoring Period:** | 26/06/2023 to 31/03/2024 |

| | |
|---|---|
| GS4GG requirements:<br>1. Principles and Requirements v1.2<br>2. Programme of Activity Requirements and Procedures, v2.1<br>3. Community Services Activity requirements, v1.2<br>4. GHG Emissions Reduction & Sequestration Product Requirements, v2.2<br>5. Validation and Verification Standard, v1.0<br>6. Stakeholder Consultation and Engagement Requirements, v2.1<br>7. Rule update: Application of suppressed demand, project type and applicable scale threshold (RU 2020 PR-GHG V1.2), 13/08/2020<br>8. Safeguard principles & Requirements, V2.1, 29/06/2023.<br>9. Gender Equality Requirements & Guidelines, v2.0, 16/05/2023.<br><br>Methodology for emission reductions from safe drinking water supply, v1.0 | GS4GG Sectoral Scope: 2<br>UNFCCC CDM Sectoral Scope: 3<br>Technical Area: 3.1 |
| Published Monitoring Report Version: 01<br>Date: 28/03/2024 | Final Monitoring Report Version: 1.5<br>Date: 11/12/2024 |
| PoA-DD Version: 1.6<br>Date: 14/11/2024 | VPA-DD Version: 1.5<br>Date: 20/11/2024 |
| Estimated Annual Emission Reductions: 7,665 tons-$CO_2$/year | |
| Selected Sustainable Development Goals (SDGs): SDG 6; SDG 7; SDG 8; SDG 13 | |
| **Verification Summary** | |

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| SUMMARY | | | |
|---|---|---|---|
| **Reference No.** | **Date** (first version) | **Version No.** | **Date** (last version) |

LGAI Technological Center, S.A. (hereafter referred to as Applus+ Certification) has been contracted by Virridy Carbon LLC, has performed the independent verification of the emission reductions for the GS VPA "GS 12239 VPA-1 Amazi Meza Rwanda Water Supply Project For Schools" " (GS ID-12340) in "Rwanda" applying the methodology for emission reductions from safe drinking water supply (v1.0).

The management of Virridy Carbon LLC is responsible for the preparation of the GHG emissions data and the reported GHG emission reductions.

The report and the annexed validation checklist describe a total of 3 findings which include:

- 00 Clarification Requests (CLs/CRs);
- 03 Corrective Action Requests (CARs);
- 00 Forward Action Requests (FARs) raised during the preliminary design review is closed

A desk review and a site visit have been conducted to verify the data submitted in the monitoring report. Applus+ Certification confirms the following has been reviewed:

(a) The registered GS PoA-DD/1/ and GS VPA-DD/2/, including the monitoring plan and the corresponding validation report.
(b) Monitoring report;
(c) The applied monitoring methodology.
(d) Relevant decisions, clarifications, and guidance from the CMP and the CDM Executive Board.
(e) GS4GG version 1.2 requirements.
(f) Evidence for CSR activities carried as stated in SD monitoring plan
(g) Training Records of Project staff
(h) HR employment records of the Project staff on site
(i) All information and references relevant to the project activity's resulting in emission reductions.

This VPA addresses the lack of safe drinking water in certain schools in Rwanda and the resulting negative impacts on students' health and learning. The objectives of this Gold Standard Program of Activities (PoA) are:

a) Provide water treatment to Schools in Rwanda to address microbiological contamination, and;
b) Avoid $CO_2e$ emissions associated with water treatment.

The CME of the VPA is Virridy Carbon LLC, which will be the sole beneficiary of carbon credits from this VPA.

Applus+ Certification confirm that the project is implemented in accordance with the approved PoA-DD and VPA-DD. The monitoring plan complies with the applied applied methodology and the GS4GG Version 1.2, the monitoring has been carried out in accordance with the monitoring plan. The monitoring system is in place and the emission reductions are calculated without material misstatements. Our opinion relates to the projects GHG emissions, and the resulting GHG emission reductions reported and related to the valid and registered project baseline and monitoring and its associated documents. Based on the information reviewed and evaluated Applus+Certification confirms that the implementation of the project has resulted in 7,665 $tCO_2e$ emission reductions during period 26/06/2023 – 31/03/2024.

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| **ASSESSMENT TEAM*** | | |
|---|---|---|
| **Team Members** | **Type of Resource**[1] | **Organization** (for OEs) |
| Lead Auditor & Technical Expert:<br>Mr. Raul González Mitre, PhD | ☐ IR ☐ EI ☒ OE | NOVA CERT, LLC |
| Local Expert:<br>Mr. Munguakonkwa Taka Hubert | ☐ IR ☒ EI ☐ OE | External individual |
| Technical Reviewer:<br>Premjit Singh | ☒ IR ☐ EI ☐ OE | Internal resource |

* The same assessment team has conducted combined validation of PoA & real case VPA and the verification of the real-case VPA (with exception of the Technical Reviewer which is different for the verification of the real-case VPA).

[1] IR (Internal Resource); EI (External Individual); OE (Outsourced Entity)

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| ABBREVIATIONS | |
|---|---|
| **Applus / A+** | LGAI Technological Center, S.A. (Applus+ Certification) |
| **BM** | Build Margin |
| **CAR** | Corrective Action Request |
| **CDM** | Clean Development Mechanism |
| **CDM EB** | CDM Executive Board |
| **CER** | Certified Emission Reduction |
| **CL** | Clarification Request |
| **CM** | Combined Margin |
| **CME** | Coordinating Management Entity: Virridy Carbon LLC |
| **CWS** | Community water supply technologies |
| **CWT** | Community level water treatment technologies |
| **DNA** | Designated National Authority |
| **EF** | Emission Factor |
| **EIA** | Environmental Impact Assessment |
| **ER** | Emission Reduction |
| **FAR** | Forward Action Request |
| **fNRB** | Fraction of Non-Renewable Biomass |
| **GHG** | Greenhouse Gas(es) |
| **GS4GG (or GS)** | Gold Standard for Global Goals |
| **HWT** | Household water treatment technologies |
| **IWT** | Institutional water treatment technologies |
| **IWS** | Improved water sources |
| **IPCC** | Intergovernmental Panel on Climate Change |
| **LifeStraw** | LifeStraw® |
| **MINEDUC** | Ministry of Education |
| **MoU** | Memorandum of Understanding |
| **MP** | Monitoring Plan |
| **MR** | Monitoring Report |
| **N/A** | Not applicable |
| **NGO** | Non-Governmental Organization |
| **ODA** | Official Development Assistance |
| **OM** | Operational Margin |
| **PD** | Project Developer |
| **PDN** | Public Distribution Network |
| **PDN / PDS** | Public distribution network/system |
| **PoA-DD** | Key Project Information & Programme Design Document |

| | |
|---|---|
| **PoC** | Point-of-collection |
| **PS** | Project Standard |
| **Real Case VPA** | The first VPA involving specific technology/measures and/or methodology/methodological combination proposed to include in a PoA |
| **REMA** | Rwanda Environmental Management Authority |
| **SDG** | Sustainable Development Goal |
| **SDW** | Safe drinking water |
| **$tCO_2e$ / $tCO_2eq$** | Tones of $CO_2$ equivalent |
| **UN** | United Nations |
| **UNFCCC** | United Nations Framework Convention for Climate Change |
| **UNICEF** | United Nations International Children's Emergency Fund |
| **Virridy** | Virridy Carbon LLC / Virridy Rwanda LTD |
| **VPA** | Voluntary Project Activity |
| **VPA-DD** | Key Project Information & VPA Design Document |
| **VPA-FVerR** | Final Verification Report of the VPA |
| **VVB** | Validation and Verification Body |
| **VT** | Verification team |
| **VVS** | Validation and Verification Standard |
| **WHO** | World Health Organization |

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# 1. INTRODUCTION

## 1.1 Objective

This verification is an independent and objective review for the GS4GG requirement, of the emission reductions achieved by the VPA "GS 12239 VPA-1 Amazi Meza Rwanda Water Supply Project For Schools" for the period 26/06/2023 to 31/03/2024.

The verification report addresses the implementation and operation of the GS VPA and tests the data and assertions set out in the monitoring report based on the following:

(i) The registered GS PoA-DD and/or VPA-DD;

(ii) The approved methodology mention in the VPA-DD;

(iii) The latest GS4GG guidelines version 1.2

(iv) Relevant decisions, guidance, and clarifications of the GS and any other information and references relevant to the project activity's reported emission reductions.

The verification has considered both quantitative and qualitative aspects on stated/reported emission reductions. The monitoring report (all versions) and corresponding supporting documentation was assessed in accordance with the rules defined by GS, as appropriate to the PA. The verification is not meant to provide any consulting or recommendations to the CME/others. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the monitoring activities.

## 1.2 Scope

The verification scope encompasses an independent and objective review for the Gold Standard for the Global Goals (GS4GG) version 1.2 requirements of the emission reductions achieved for the project activity.

The verification is based on the submitted monitoring report, the validated PoA-DD and VPA-DD as well as its validation report and any other information and references relevant to the project activity's resulting emission reductions. These documents are reviewed against the applied monitoring methodology, relevant decisions, clarifications, and guidance from the GS.

Based on the requirements of the GS4GG Principles and Requirements[/A-1/], Applus+ Certification has applied a rule-based approach for the verification of the project. The principles of accuracy, completeness, relevance, reliability, and credibility were combined with a conservative approach to establish a traceable and transparent verification opinion.

The verification process involved following.

- Contract with PD for the scope of verification;
- Submission of monitoring report and supporting documents;
- Desk review;
- On-site inspection;
- Issuance of verification findings;
- Reporting, calculation checks, QA/QC and resolution of findings;

- Issuance of draft verification report;
- Independent technical review of the project documentation, and
- Issuance of the final verification report.

## 1.3 Description of the project activity

**General information about the VPA:**

| | |
|---|---|
| Voluntary PoA: | "Amazi Meza Rwanda Water Supply Project For Schools – PoA" |
| GS PoA registration number: | 12439 |
| Voluntary VPA-1: | "GS 12239 VPA-1 Amazi Meza Rwanda Water Supply Project For Schools" |
| GS VPA-1 registration number: | 12440 |
| Project Participants: | Virridy Carbon LLC |
| Location of the project: | Country: Republic of Rwanda<br>Rwanda \| 1.9403° S, 29.8739° E |
| Date of registration: | PoA validation, real case VPA validation & real case VPA verification occurring at the same time. |
| Starting date of the crediting period (Date of start of distribution of WPS): | 26/06/2023 |

Virridy Carbon LLC has fully implemented the PoA with 1,273 LifeStraw® Community filters with installations taking place from 26/06/2023 to 23/02/2024.

The project reduces GHG emissions by addressing the lack of safe drinking water in certain schools in Rwanda and the resulting negative impacts on students' health and learning.

The project aims to reduce the energy demand and respective carbon emissions from the population served selected schools by the project activity for whom the common practice of water treatment for drinking is or would have been water boiling, considering the emission factor of the baseline energy source mix, including the displacement of Non-Renewable Biomass (NRB). The project accounts for purified water consumed for drinking

The objective of this Gold Standard Program of Activities (PoA) is to provide water treatment devices to schools in Rwanda to address microbiological contamination, and avoiding $CO_2e$ emissions associated with water treatment (e.g. boiling).

**VPA implementation:**

VPA1 has been is fully implemented since first installation occurred on 26/06/2023. A total amount of 1,273 filters (LifeStraw® Community) have been installed in 154 schools across Rwanda, as per district distribution is as follow:

- Gakenke: 604 filters in 75 schools;
- Kamonyi: 303 filters in 35 schools;
- Muhanga: 213 filters in 30 schools, and
- Musanze 153 filters districts in 14 schools.

The project is serving 133,156 people (students and schools' staff). This has been checked through filter installation database/22/ and performing interviews during on site visit. No errors, omissions, misstatements, or incomplete information have been identified.

**Double counting of carbon credits:**

The VPA activity is not registered under any other emissions trading program or any other mechanism that includes GHG allowance trading. The VT has checked the most recognized web sites/AA/ of voluntary GHG programs and can confirm that there is no other similar project with the same technology/equipment, installed in the same schools than the VPA. Hence, no double counting of credits is anticipated in the current monitoring period. Furthermore, the risk of double counting with national climate policies for the project is considered low. The VT has not found any information in the media or internet which provides evidence of double counting with national emissions trading programs. Rwanda has developed a national carbon market framework but does not have right now a carbon tax or Emission Trading System in place/EE/ nor an official and operative carbon registry. The National Carbon Market Framework/LL/ has been checked.

Furthermore, it has been checked also for Article 6.2 agreements or Memorandum of Understanding in place with governments like Switzerland/FF/, Singapore/GG/, Japan/HH/, Kuwait/II/ Germany/OO/ and Sweden/MM/. Even that there are MoUs in place for Singapore, Kuwait, Germany and Sweden, there is no information of ongoing projects with the same technology, region or stakeholders than the project activity.

Moreover, according to the Gold Standard web site/NN/, the issuance of a Letter of Authorization by the Government of Rwanda marks the first time that credits issued to an independent standard have been publicly recognized to have an Article 6 authorization. The project achieves emission reductions in Rwanda by replacing traditional stoves with highly efficient biomass-fired cookstoves. The corresponding party is Germany.

Furthermore, other mechanisms like the Carbon Initiative for Development (Ci-Dev) from the World Bank have been checked/JJ/. There are three projects listed under Ci-Dev in Rwanda but all of them are related to clean and improved cooking.

Finally, the PD has declared in the MR cannot/will not claim nor account emission reductions (ERs) for the same vintage in another standard other than GS nor any other carbon market mechanism (regulated or voluntary).

Hence, it can be concluded that no double counting of carbon credits or any other emissions trading program allowances are identified for the PoA and VPA in the host country.

# 2. METHODOLOGY

Applus+ Certification approach to the verification is a two-stage process.

In the 1st stage, Applus+ Certification completed a strategic review and risk assessment of the project's activities and processes to gain a full understanding of:

- Activities associated with all the sources contributing to the project emissions and emission reductions, including leakage if relevant;
- Protocols used to estimate or measure GHG emissions from these sources;
- Collection and handling of data;
- Controls on the collection and handling of data;
- Means of verifying reported data; and
- Compilation of the monitoring report.

Applus+ Certification used a periodical Verification Checklist which, based on the risk-based assessment of the parameters and data collection and handling processes for each of those parameters, describes the verification approach and the sampling plan.

In the 2nd stage, using the Verification Checklist, Applus+ Certification verified the implementation of the monitoring plan and the data presented in the Monitoring Report for the period in question. This involved a virtual site visit and a desk review of the Monitoring Report. This Verification Report describes the findings of this assessment.

## 2.1 Appointment of the assessment team

According to the sectoral scope / technical area and experience in the sectoral or national business environment, LGAI Technological Center, S.A. (Applus+ Certification) has composed a project assessment team in accordance with the appointment rules in the internal Quality Management System of LGAI Technological Center, S.A. (Applus+ Certification).

The composition of audit team shall be approved by the LGAI Technological Center, S.A. (Applus+ Certification) ensuring that the required skills are covered by the team.

The four qualification levels for team members that are assigned by formal appointment rules are as presented below:

- Lead Auditor (LA).
- Auditor (A) / Auditor in Training (AiT).
- Technical Expert (TE).
- Technical Reviewer (TR).

The sectoral scope / technical area knowledge linked to the applied methodology/ies shall be covered by the assessment team.

| Name | Role | SS Coverage | TA Coverage | Financial aspect | Host country experience |
|---|---|---|---|---|---|
| Mr. Raul Gonzalez Mitre, PhD | Lead Auditor/Technical expert | 3 | 3.1 | N/A | N |
| Mr. Munguakonkwa Taka Hubert | Local Support | - | - | - | Y |
| Mr. Premjit Singh | Technical reviewer | 3 | 3.1 | N/A | N |

The complete list of CVs is included as Appendix 3 of this report.

## 2.2 Document review

The Gold Standard Monitoring Report version[9] was submitted to VVB before the verification activities started. The MR was assessed based on all the relevant documents. The aim of the assessment in the desk review was to:

- Verify the completeness of the data and the information presented in the MR;
- Check the compliance of the MR with respect to the monitoring plan depicted in the registered VPA-DD; verify that the applied methodology was carried out. Particular attention to the frequency of measurements and the quality assurance and quality control procedures was paid;
- Evaluate the data management and the quality assurance and quality control system in the context of their influence on the generation and reporting of emission reductions.

A complete list of documents reviewed is available in section 4 of this report.

## 2.3 On site assessment and follow up interviews

An on-site visit was conducted for the project activity from 16/April/2024 to 19/April/2024. It was a combined site visit for the:

- Validation of the PoA;
- Validation of the VPA (real case), and
- Verification of the VPA (real case).

The audit team has conducted several activities during on site assessment:

- A complete desk review of the MR, as well as all applicable country legal requirement and supportive evidences have been checked by the verification team.
- To check implementation, project boundary, current situation, monitoring, monitoring procedures, etc.

- Cross-check evaluation, for information received from interviews, under the scope of all information and references provided in MR and supporting documents.
- An assessment of the implementation and operation of the GS project activity as per the registered GS VPA-DD;
- A review of information flows for generating, aggregating and reporting the monitoring parameters;
- Performance and observations of monitoring practices against the requirements of the registered GS VPA-DD and the selected methodology;
- Visit of control room to assess energy generation data and any disruption in process generation.
- A review of calculations and assumptions made in determining the GHG data and emission reductions;
- An 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.

Interviews were performed on site. The objective of the assessment is to:

- Confirm the implementation and operation of the project;
- Review the data flow for generating, aggregating and reporting the monitoring parameters;
- Confirm the correct implementation of procedures for operations and data collection;
- Cross-check the information provided in the MR documentation with other sources;
- Review the calculations and assumptions used to obtain the GHG data and ER;
- Identify if the quality control and quality assurance procedures are in place to prevent or correct errors or omissions in the reported parameters.

The VT visited the following schools based on the determination of a sampling, which is assessed in section 3.2 of this report:

| Name of School | District | Sector |
|---|---|---|
| 1. EP Bumbogo | Kamonyi | Nyamiyaga |
| 2. EP Bibungo | Kamonyi | Nyamiyaga |
| 3. EP Gakoro | Gakenke | Cyabingo |
| 4. EP Kiryamo | Gakenke | Muzo |
| 5. EP Buranga | Gakenke | Kivuruga |
| 6. GS Busogo1 | Musanze | Busogo |
| 7. GS Karama | Musanze | Gacaca |
| 8. GS Cyiciro | Muhanga | Nyarusange |

VVB verified technical details & metering/monitoring arrangements along with project's technical data and information, monitoring arrangements and records shared by PP. All the documents were cross checked to ensure conservative estimation of emission reductions has taken place. The audit team has conducted several activities during on site assessment, as general approach, the following has been checked:

- Cross-check evaluation, for information received from interviews, under the scope of all information and references provided in MR and supporting documents.
- An assessment of the design of the VPA as per the registered PoA-DD and VPA-DD;

The following table shows the detailed activities performed during on site visit:

| No. | Activity performed on-site | Site location | Date | Team member |
|---|---|---|---|---|
| 1. | **Initial meeting**<br>- Scope of work and timelines, main goals of the inspection and Applus+ Certification's assessment process presentation.<br>- Public Comment Period comments and resolution (if any).<br>- Confidentiality, commercially sensitive information.<br>- Sampling method (if applicable).<br>- Potential alternative schedules of the site visit | Kigali | 16/April/2024 | Raul G. Mitre<br>Munguakonkwa Taka Hubert |

| | | | | |
|---|---|---|---|---|
| | proposed by the project's representatives and agreement of changes, if any. | | | |
| 2. | **Project site visit and interview with relevant personnel:**<br>- Implementation of design of the project, deviations of the project design.<br>- Geographical location.<br>- Technologies and/or measures, capacity of the project, auxiliary power units, etc.<br>- Project boundary, sources, GHGs.<br>- Environmental impacts, monitoring of environmental requirements.<br>- SDGs Monitoring plan and monitoring methodology implementation, sampling plan<br>- Meeting with residents and social stakeholders around the project site.<br>- Other meetings with stakeholders and third parties in case of necessity and availability.<br>- Compliance of the monitoring activities with the project document and monitoring methodologies, tools and standardized baselines, as applied. Deviations from the methodology(ies).<br>- Internal management controls, calculations and their internal review, data transferring and collection system and procedures, frequency of the monitoring reports.<br>- Metering Equipment and metering practices.<br>- Meeting with residents and social stakeholders around the project site. | - Kamonyi, Nyamiyaga<br>- Gakenke, Cyabingo<br>- Gakenke, Muzo<br>- Gakenke, Kivuruga<br>- Gakenke, Kivuruga<br>- Musanze, Busogo,<br>- Musanze, Gacaca<br>- Muhanga, Nyarusange | From 16/April/2024 to 19/April/2024 | Raul G. Mitre<br><br>Munguakonkwa Taka Hubert |

| | | | | |
|---|---|---|---|---|
| | - Other meetings with stakeholders and third parties in case of necessity and available | | | |
| 3. | **Project design and characteristics:**<br>- Start date and compliance of period for registration.<br>- Description and design of the project, implementation.<br>- Identification of the project type, project scale and eligibility under GS4GG.<br>- Crediting period start date, type and duration, Monitoring Period reported and used.<br>- Conditions prior to project initiation.<br>- Data collection system, QA/QC procedures and compliance with the Monitoring Plan.<br>- Sustainable Development Goals (SDGs).<br>- Identification of changes occurred in the project description and design (deviations of the project design implementation).<br>- Parties involved, project developer/CME, project participants, ownership. | Kigali | From 16/April/2024 to 19/April/2024 | Raul G. Mitre<br>Munguakonkwa Taka Hubert |
| 4. | **Documentary Review:**<br>- Compliance of the Project Design Document and Monitoring Report with the current version of the templates and their required contents. Correct use of other templates.<br>- Baseline scenario and project scenario identification.<br>- Selection, applicability conditions and application of methodologies and standardized baselines. Deviations from the methodology(ies). | Kigali | 19/April/2024 | Raul G. Mitre<br>Munguakonkwa Taka Hubert |

| | | | | |
|---|---|---|---|---|
| | - Determination of the additionality and financial needs.<br>- Assessment of data and calculations of SDGs and emission reductions or net removals (conservativeness, use of calculation methods and assumptions, emission factors and GWPs, reliability/reproducibility).<br>- Assessment on the differences from the estimated value of SDGs and ERs in the PDD and the achieved SDGs and ERs in the Monitoring Period.<br>- Data and parameters fixed ex ante and monitored parameters and reporting requirements.<br>- Local stakeholder consultation and inclusivity, feedback rounds, consultation report.<br>- Project compliance with applicable laws, statutes and other regulatory frameworks.<br>- Safeguarding Principles Assessment.<br>- FARs (forward action requests) from GS Preliminary Review. | | | |
| 5. | **Audit team internal meeting:**<br>- Audit Team's discussion in terms of findings, compiled objective evidences, completeness of the audit and compliance of its requirements.<br>- Elaboration of the Findings list (Draft Validation Report). | Kigali | 19/April/2024 | Raul G. Mitre<br>Munguakonkwa Taka Hubert |
| 6. | **Final meeting:**<br>- Explanation of the assessment results (raised findings), discussion and agreement on the elaboration of the findings. | Kigali | 19/April/2024 | Raul G. Mitre<br>Munguakonkwa Taka Hubert |

| | | | | |
|---|---|---|---|---|
| | - Timelines for the closure of the findings and next steps of the process for registration. | | | |

List of personnel interviewed during on site visit:

| | *Name: | Company and position: | Date: |
|---|---|---|---|
| 1 | Mr. IVAN Hernandez | Consultant Sajoma | 16-19/04/2024 |
| 2 | Ms. LAURA MacDonald | Virridy | 16-18/04/2024 |
| 3 | Mr. EVAN Thomas | Vrridy | 16-18/04/2024 |
| 4 | Mr. MUGABO Lambert | School Program Manager Virridy | 16-19/04/2024 |
| 5 | Mr. NTAZINDA Jean | Virridy Rwanda | 16-19/04/2024 |
| 6 | Mr. NIYOMUGABO Pacifique Olivier | Field Technician Virridy Rwanda | 16-19/04/2024 |
| 7 | Ms. Manirabaruta Gisèle | Water Quality Manager, Virridy Rwanda | 19/04/2024 |
| 8 | Ms. Kayitesi Diane | Finance Manager Virridy Rwanda | 19/04/2024 |
| 9 | Mr. DUSABUMUREMYI Valens | Headteacher EP Bibungo | 16/04/2024 |
| 10 | Ms. NYIRAMANA Christine | Teacher EP Bibungo | 16/04/2024 |
| 11 | Mr. NDAHAYO Augustin | Headteacher EP Bumbogo | 16/04/2024 |
| 12 | Mr. HARIMWINYUNGU Zachée | Teacher EP Bumbogo | 16/04/2024 |
| 13 | Mr. MUSABYIMANA Frodouard | Teacher EP Bumbogo | 16/04/2024 |
| 14 | Mr. Rev. HABUMUREMYI Jean Patrick | Headteacher EP Kiryamo | 17/04/2024 |
| 15 | Mr. ABIJURU Jeanne d'Arc | Responsible EP Kiryamo | 17/04/2024 |
| 16 | Mr. MUGENZI J. Bosco | HeadteacherEP Buranga | 17/04/2024 |
| 17 | Mr. NSANZIMANA Venuste | EP Buranga Teacher | 17/04/2024 |
| 18 | Ms. AKIMANIZANYE Adeline | Headteacher EP Gakoro | 17/04/2024 |
| 19 | Mr. TUYISHIMIRE Egide | Teacher EP Gakoro | 17/04/2024 |
| 20 | Mr. Fr. TUYISHIMIRE Jean Damascene | Headteacher G.S BusogoI | 18/04/2024 |
| 21 | Mr. MUNEZERO Jean Chrysostome | Teacher G.S BusogoI | 18/04/2024 |
| 22 | Ms. MUHIRE Félicien | Teacher G.S BusogoI | 18/04/2024 |
| 23 | Mr. BIBUTSUHOZE Léonidas | Headteacher G.S Karama | 18/04/2024 |
| 24 | Ms. TWAHIRWA Faustin | Responsible G.S Karama | 18/04/2024 |
| 25 | Mr. NKURUNZIZA Aimable | Headteacher G.S Cyiciro | 19/04/2024 |
| 26 | Mr. NIKUZE Pélagie | Teacher G.S Cyiciro | 19/04/2024 |

*The respective personnel whose names are mentioned above have provided their consent for publishing their names in this document.

The MoUs signed[7] (legal ownership) between the PD and the schools where the filters are being installed were provided to the VT. The VT checked these documents and found them as correct. It is clearly stated the legal ownership of the ER certificates is the PD. Furthermore, this has been cross checked during interviews with principal of the visited schools. Principals shown the same carbon waivers which were previously provided by the PD. No errors, omissions, misstatements, or incomplete information have been identified.

As a combined on-site visit was done for the Validation of the PoA, the Validation of the VPA (real case) and the Verification of the VPA (real case), the following questions were asked to the stakeholders in order to validate the baseline and project scenario:

1. Where is the water coming from?
2. Is the same amount of water available the whole year?
3. Did you do anything (past) to make water safer to drink? How?
4. (In case of boiling) How much fuel did you use for purifying purposes?
5. How did you get the fuel? and how much did you pay for the fuel?
6. Are you still using another purifying system after the implementation of the water filters?
7. Where are the water filters located? how often do you use them?
8. Do you think the children drink more water now that the water filters are installed?
9. How many filters are installed in the school?
10. How many students do you have in the school? teachers? staff?
11. Do you storage the filtered water? Where?
12. Do all water filters work perfectly?
13. When was the last time a water filter was damaged or broken?
14. How often do you need to clean the water filters? How do you do it?
15. Who is responsible of the maintenance or reparation of the water filters?
16. Did you pay something to get the water filter? how much?
17. Did you signed a document to get the water filter? when?
18. Did you receive training/information to operate/clean the water filter? when? Who attend?
19. How do you communicate to project developer if you have any comment, complain or question?
20. Please explain the hygiene campaigns that are taking place in the school
21. How do you know the number of days the school is open/working?
22. Do you want to add something else, do you have any question?

As a result of the application of the questionnaire, it can be concluded that in most of the cases, water source is coming from springs and the availability depends on the raining season. There is no official water supply network in any of the schools. Furthermore, the schools have boiled the water for drinking purposes in the past and in some cases, they just use directly the water from the source. Water used to be boiled using fire wood which was bought. It was observed during on site visit that all schools have kitchen to prepare food for the children and the fuel used is always firewood. It has been also confirmed that no water filters or water deposits for drinking purposes were located inside the classrooms. Hence, children did not drink water on a regular basis. Now the filters are located inside the classrooms and approximately for every 2 classrooms (100 children), a filter being is used. In all cases during interviews, it has been confirmed that a suppressed demand was observed. Children drink more water know as they have it directly available in the classroom.

All filters observed work perfectly. No broken filter was observed. This has been also confirmed during on site interviews. Water filters are cleaned every day either by the teachers or by the

children. Once a week a deep cleaning is taking, please as per manufacturer specifications. Check lists are used for its control.

No payment has been done in any case for any filter or training given. A document has been signed between the PD and the representative of the school. The same template is used for all schools visited. The signed documents have been presented and reviewed by the VT for all schools visited. No errors, omissions, misstatements, or incomplete information have been identified.

Training and information on how to handle and operate the water filters have been given by the PD in all schools visited. In all cases, the contact number of the PD is available in case of questions or in case any of the filters have been damaged. Furthermore, hygiene campaigns are taken place on a regular basis in the daily/weekly assemblies with the children. Teachers also stress importance of drinking safe water and to take care of the water filters. Also, during parents' meetings, information on hygiene and safe water to drink is also communicate. Some schools organized «The Water Club» which invites students to participate in the daily cleaning routine of the filters in the classroom and remind classmates about the importance of drinking safe water and hygiene habits. All these information has been checked during on site visit. No errors, omissions, misstatements, or incomplete information have been identified.

Every school follow the official calendar of the government and information of the number of children can also be obtained from official sources.

In general, the water filters were operational, and the user's informed those have been used without inconvenient. In short, positive feedback was received from the end-users regarding the water filters during the on-site interview conducted by the VT.

It is Verification Team opinion that the interviews performed on site are sufficient to demonstrate that correct operation and behavior of the VPA.

## 2.4 Quality of evidence

Sufficient evidence covering the full verification period in the required frequency is available to verify the figures stated in the final MR. The source of the evidence will be discussed in section 4 of this report. Specific cross-checks have been done in cases that further sources were available. The monitoring report's figures were checked by the assessment team against the raw data. The data collection system meets the requirements of the monitoring plan as per the methodology.

## 2.5 Reporting of findings

As an outcome of the verification process, the assessment team can raise different types of findings.

Where a non-conformance arises the assessment team shall raise a Corrective Action Request (CAR). A CAR is issued, where:

a) Non-compliance with the monitoring plan or methodology are found in monitoring and reporting and has not been sufficiently documented by the project participants, or if the evidence provided to prove conformity is insufficient;

b) Modifications to the implementation, operation and monitoring of the registered project activity has not been sufficiently documented by the project participants;

c) Mistakes have been made in applying assumptions, data or calculations of emission reductions that will impact the quantity of emission reductions;

d) Issues identified in a FAR during validation to be verified during verification or previous verification(s) have not been resolved by the project participants.

The assessment team shall raise a Clarification Request (CR) if information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met.

All CARs and CRs raised during verification shall be resolved prior to submitting a request for issuance.

Forward Action Requests (FARs) may be raised during verification for actions where the monitoring and reporting require attention and/or adjustment for the next verification period.

All CARs, CRs and FARs for this verification period are included in Appendix 1 of the verification report.

## 2.6 Internal Quality Control

As a final step of verification, the final documentation including the verification report has to undergo an internal quality control by the Technical Reviewer. Each report must be finally approved either by the VVB's Technical Manager or the Deputy. In case one of these two persons is part of the assessment team, the approval can only be given by the person who is not a part of the assessment team. If the documents have been satisfactorily approved, the Request for Issuance is submitted to the GS Registry along with the relevant documents.

# 3. VERIFICATION FINDINGS

## 3.1 FARs from Validation / Previous Verification

As this is the first verification of the real case VPA, there are no FARs were raised during last verification. Furthermore, there were no FARs raised at the time of VPA validation.

## 3.2 Project Implementation in accordance with the registered Project Design Document

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|---|---|
| **Means of verification** | The registered GS PoA-DD/01/ & VPA-DD/04/ was reviewed to identify the key design features, eligibility requirements and monitoring requirements for the VPA operations. The verification team carried out checks during the on-site site visit to assess the compliance of the VPA operations with the PoA design, physical features, and monitoring provisions.<br><br>The assessment team has on-site interview, photographic evidence and review of documents (Refer to section 4), the audit team confirms the |

| | |
|---|---|
| | project implementation and operation complies with the registered PoA-DD/01/.<br><br>The following features of the implemented VPA were compared with the registered PoA-DD:<br><br>(i) Implemented technology<br>(ii) VPA eligibility conditions<br>(iii) Emission reduction calculation method<br>(iv) Implemented monitoring plan (including SDG parameters)<br>(v) Implementation of grievance mechanism<br><br>The implemented CPA, covered under this verification, consists of the installation of 1,273 filters in 154 schools across Gakenke, Kamonyi, Muhanga, and Musanze districts in Rwanda. The project is serving 133,156 people (students and schools' staff).<br><br>The specification of the filters was checked from the specification documents by the manufacturer/4/ and the actual units were compared against the same from the Filter installation database /22/. There was no difference of the technology observed from the specifications mentioned in the GS PoA-DD. The VPA implementation complied with all eligibility conditions as provisioned in the PoA-DD. The formulae, fixed parameters and the monitoring parameters and emission reduction calculation methods applied in the monitoring report were found to be complying with the PoA-DD.<br><br>The PoA addresses the lack of safe drinking water in certain schools in Rwanda and the resulting negative impacts on students' health and learning. The objectives of this Gold Standard Program of Activities (PoA) are to provide water treatment to Schools in Rwanda to address microbiological contamination, and avoiding $CO_2e$ emissions associated with water treatment.<br><br>Virridy Carbon LLC office manages all activities related to carbon finance, certification and Gold Standard compliance, and funds all project operations. Filter installation and operations are managed from Virridy Rwanda LTD office in Kigali, Rwanda.<br><br>A complete description of the organizational structure of monitoring has been included in section C of the MR. Interviews were performed on site for cross check purposes. No discrepancies were identified.<br><br>The management system has been installed as per the definition of the PoA-DD and VPA-DD. No discrepancies were identified. Roles and responsibilities, records and documentation control processes and procedure to avoid double counting.<br><br>During the current monitoring period no changes have been observed which may impact the additionality, scale and/or applicability of baseline and monitoring methodology. |

| | |
|---|---|
| | The operational status of all filters, impact on identified SDGs from the monitoring period has been taken into consideration.<br><br>The monitoring and follow-up procedures consist in different arrangements to ensure properly identification of schools, installation, and use of filtering technology. These includes but is not limited to schools identification, installation records, training activities, hygiene campaigns, monitoring surveys and a well-defined organizational structure for the monitoring. All these measures have been properly described in the MR. The descriptions are aligned with the PoA-DD and VPA-DD. No discrepancies were identified.<br><br>**Sampling approach for monitoring:**<br><br>**CME's sampling approach**:<br><br>The verification team checked whether the PP applied a sampling approach to determine the monitored values appropriately in line with POA-DD and VPA-DD.<br><br>Further it has been checked whether the PP correctly applied the implemented sampling plan including:<br><br>i. Description of the implemented sampling design<br>ii. Collected data<br>iii. Analysis of collected data<br>iv. Demonstration on whether the required confidence/precision has been met.<br><br>According to the applied methodology /B/ paragraph 4.2.5, for guidance, project developers may refer to the valid version of the Guideline Sampling and surveys for CDM project activities and programmes of activities /D-2/, for the type of sampling approach (simple random, cluster, stratified etc.) applicable to their project context.<br><br>Based in the Guideline of Sampling /D-2/, a stratified random sampling has been selected (based on the Example 2, paragraphs 23-31) by the PD as it is suitable in the context of the PoA (Schools per district).<br><br>Furthermore, according to the applied methodology /B/ paragraph 4.2.2: A statistically valid sample can be used to determine parameter values, as per the relevant requirements for sampling in the Methodology for Sampling and surveys for CDM project activities and programmes of activities /D-2/. "Minimum 90% confidence interval and a 10% margin of error requirement shall be achieved for the sampled parameters. In any case, for proportion parameter values, a minimum sample size of 30, or the whole group size if this is lower than 30, must always be applied. Further, cross-VPA sampling is not accepted across groups larger than 10 VPAs." |

The PP has provided a database[/9/] with information of all filters and schools considered in the PoA. The total size is 154 districts where 1278 filters have been installed. The districts are:

| District | Number of Schools | Proportion |
|---|---|---|
| Gakenke | 75 | 49% |
| Kamonyi | 35 | 23% |
| Muhanga | 30 | 19% |
| Musanze | 14 | 9% |

As a result of applying a stratified random type of sampling with 90% confidence interval and a 10% margin of error, a final sample size of 43 filters have been resulted, which need to be divided up according to the proportion of each school type to get the number of filters that should be sampled in from each school type. As a result, a total sample of 14 schools shall has been randomly selected:

| School Type | Sample size | Number of Samples after Round Up |
|---|---|---|
| Gakenke | 6.3 | 7 |
| Kamonyi | 2.9 | 3 |
| Muhanga | 1.1 | 2 |
| Musanze | 1.1 | 2 |
| **Total** | 11.7 | **14** |

No CME sampling monitoring records/data results were found discrepant during the DOE verification site-visit. All the 14 samples checked by the verification team were found comparable with CME monitoring records and were also found to be operational during on-site verification. Further, the verification team reviewed all the primary monitoring records to assess the consistency of information with ER calculation spreadsheet and found the monitoring data to be correctly transcribed into the ER sheet and MR.

Based on above, verification team concludes that sampling results and values presented by CME in the MR and ER calculation spread sheet with objective evidence as submitted in response to verification issues are consistent with the on-site visit observation and interview with the end users. By means of above assessment, the verification team confirms that:

- The sample calculation[/11/] has been provided by the PP and evaluated by the VT. All formulae, data and assumptions have been dully checked. No errors, miscalculations, omissions, misstatements, or incomplete information have been identified.

| | |
|---|---|
| | • The VT confirms that sampling plan proposed by the CME is reliable and appropriate for the type of PoA<br><br>• The survey was implemented in accordance with the with the applied methodology/B/, the guideline "Sampling and surveys for CDM project activities and programme of activities"/D-2/ and the "Standard: Sampling and surveys for CDM project activities and programmes of activities/D-1/.<br><br>• The CME demonstrated to the satisfaction of the verification team that the survey conducted was free of any bias, calculation errors, misinterpretation, or misrepresentation of recorded data.<br><br>• The survey results met the required confidence/precision.<br><br>**Verification Sampling Approach:**<br><br>Regarding the verification sampling approach, as stated in paragraph 54 of the Guideline of Sampling/D-2/, "DOEs may use acceptance sampling where necessary, as described in the "Standard for sampling and surveys for CDM project activities and programme of activities" /D-1/, in the validation/verification process to verify that the project proponents have implemented a sampling plan to a satisfactory standard. This involves selecting a random sample of the project proponents' sample records and cross-checking against DOE records, i.e. data collected by the DOE".<br><br>Furthermore, according to paragraph 20 of the Standard for sampling and surveys for CDM project activities and programme of activities" /D-1/, "When the project participants the coordinated/aging entity have applied a sampling approach, the DOE may apply acceptance sampling as described in the steps indicated in paragraph 29-38 below as part of validation/verification activities".<br><br>Moreover, as indicated in paragraph 39 of the Standard for sampling and surveys for CDM project activities and programme of activities" /D-1/, "a DOE may select a different sample size than the one indicated in paragraph 32 above, either by choosing a different value for the consumer risk and producer risk (e.g. 20% of the consumer risk) when applying acceptance sampling or by using another approach, if any of the following conditions apply:<br><br>(a) The estimate volume of annual GHG emission reductions of the projet activity or the PoA being verified is equal to or less than 100,000 $tCO_2eq$,;<br>(b) The security conditions in the project region prevents inspection of many samples (e.g. conflict zones); or<br>(c) The project activity or the PoA is located in a least developed country or a host party with 10 or fewer registered CDM project activities at the end of the monitoring period being verified. |

As the estimate volume VPA of annual GHG emission reductions of the the PoA being verified is equal to or less than 100,000 $tCO_2eq$, the VT has decided to applied a different approach for sampling which is applying the same sampling approach (stratified random) selected by the PD, over the PDs sample results. This means considering the same assumptions of 90% confidence interval and a 10% margin of error. The resulting samples to be checked by the VTAs during verification are:

| School Type | Sample size | Number of samples after Rounding |
|---|---|---|
| Gakenke | 3.6 | 4 |
| Kamonyi | 1.5 | 2 |
| Muhanga | 1.0 | 1 |
| Musanze | 1.0 | 1 |
| **TOTAL** | **7.32** | **8** |

The VT has applied a sample size of 8 schools which represents 69 number of filters installed. This approach is aligned with the sampling guidance/D-2/ and standard/D-1/.

In order to cross check the selected sampling approach, the VT calculated an acceptance sampling following the requirements stated in paragraph 29-38 of the Standard for Sampling and surveys for CDM project activities and Programmes of activities/D-1/. This means VT selected random samples of CME's sampled records, checked the acceptability (or otherwise) of the data for each such record with CME's sample records, and then based on the number of records where there is an agreement, determined if the CME's sample records meet the requirements.

The VT has thus determined the sample size for acceptance sampling by evaluating the following, using guidance in the Standard 'Sampling and surveys for CDM project activities and programme of activities':

- The proportion of discrepancies between the CME's data and verification team's (field or onsite inspection results) data that can be considered acceptable. This is referred to as the AQL (Acceptable Quality Level): 0.5% was considered in this verification.

- The proportion of discrepancies between the CME's data and verification team's (field or onsite inspection results) data that would be considered unacceptable. This is the UQL (Unacceptable Quality Level): 20% was considered in this verification.

- The producer risk: 10% was considered.

- The consumer risk: 20% was considered.

Considering the above input values, a sample size of 8 was required as per Table 2 (Sample size and acceptance number based on AQL, UQL, and producer and consumer risks) in the referred Standard.

<table>
<tr><td></td><td>Accordingly, the acceptance number (c) thus determined for the sample size is 0.<br><br><table><tr><td>AQL</td><td>0.5%</td></tr><tr><td>UQL</td><td>20%</td></tr><tr><td>Producer risk</td><td>10%</td></tr><tr><td>Consumer risk</td><td>20%</td></tr><tr><td>Sample size (n) schools</td><td>8</td></tr><tr><td>Sample size (n) filters</td><td>69</td></tr><tr><td>Acceptance Number (c)</td><td>0</td></tr><tr><td>Observed Acceptance Number (c)</td><td>0</td></tr></table><br>The selected method by the VT (stratified random) shows the same results (8 samples/schools) as the acceptance sampling of the Standard for Sampling and surveys for CDM project activities and Programmes of activities/D-1/, it can be confirmed that the selected sampling plan for the verification of the VPA fulfills all applicable requirements.</td></tr>
<tr><td>Findings</td><td>CAR 01 was raised and successfully closed.</td></tr>
<tr><td>Conclusion</td><td>Applus+Certification is of the opinion that the project implementation and operation comply with the designed certified PoA and real case VPA-DD. Furthermore, it can be concluded that the monitoring report was completed using the valid version of the applicable monitoring report template/C-7/ and related manuals, guidance and instructions/A/.</td></tr>
</table>

## 3.3 Compliance of the Monitoring Plan with the Monitoring Methodology

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| **Means of verification** | Based on this review it was found that the monitoring plan contained in the registered VPA-DD/04/ includes all the required parameters to be monitored in the context of the VPA design and description and allows proper determination of emission reductions in accordance with VPA-DD/2/ and applied methodology/B/. |
| **Findings** | No findings raised |
| **Conclusion** | All monitoring parameters, monitoring procedures follow the methodology requirements and registered monitoring plan. Furthermore, it can be concluded that the monitoring report was completed using the valid version of the applicable monitoring report template/C-7/ and related manuals, guidance and instructions/A/. |

## 3.4 Data and parameters fixed ex ante

The data and parameters available at validation and remain fixed throughout the project crediting period are assessed as follow:

| Parameter | Value | Source | Assessment |
|---|---|---|---|
| **Related to water quality** | | | |
| Project technology description<br><br>(SDWS 2) | LifeStraw | Manufacturer specifications | Information from parameter was correctly given. Source is manufacturer information/4/ which is aligned with the description of the applied methodology. No discrepancies were identified. |
| Regulatory Framework for safe water supply<br><br>(SDWS 4) | Total Coliforms in 100 ml: 0<br><br>E. coli in 100 ml: 0 | Rwanda Standard, East African Standard, Potable Water Specification, EAS 12: 2014 | Information from parameter was correctly given. Source is Regulatory Framework for safe water supply/5/ which is aligned with the description of the applied methodology. No discrepancies were identified. |
| Water sources in the project boundary<br><br>(SDWS 5) | Borehole or tubewell: 1%; rainwater collection: 90%; Eligible schools supplying water by utility: 1%; protected spring: 85%; unprotected spring: 2% | Baseline Survey | Information from parameter was correctly given. Source is the Baseline survey template questions/10/ and the Baseline survey results/11/ which is aligned with the description of the applied methodology. No discrepancies were identified.<br><br>The baseline survey results correspond to the situation observed during on site assessment to the selected schools. Moreover, this observed situation was also cross checked against public information such as the Rural Drinking Water Quality Management Framework/5/ (See section 2, page 2, current status of rural drinking water quality management). No discrepancies were identified |
| **Related to emission reductions** | | | |
| Stove technologies used in the project boundary<br><br>(SDWS 2) | 3-stone: 27.1%; Imbabura: 5.1%; Muvero: 35.6%; Muvero (good conditions): 8.5%; Rondereza: 23.7% | Baseline Survey | Information from parameter was correctly given. Source is the Baseline survey template questions/10/ and the Baseline survey results/11/ which is aligned with the description of the applied methodology. No discrepancies were identified.<br><br>The baseline survey results correspond to the situation observed during on site assessment to the selected schools. Moreover, this observed situation was |

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| | | | also cross checked against public information such as the Rural Drinking Water Quality Management Framework[5] (See section 2, page 2, current status of rural drinking water quality management). No discrepancies were identified |
| Expected technical life of project technology<br><br>(SDWS 7) | 6 years specified by the manufacturer, considering periodic replacement of membrane ultrafilter and cartridge filters | Manufacturer specifications | Information from parameter was correctly given. Source is manufacturer information[4] which is aligned with the description of the applied methodology. No discrepancies were identified. |
| $xf$<br><br>Percentage of fuel f use in target population<br><br>(SDWS 8) | Biogas: 1%; Charcoal: 1%; Biomass 1%; Wood 100% | Baseline Survey | Information from parameter was correctly given. Source is the Baseline survey template questions[10] and the Baseline survey results[11] which is aligned with the description of the applied methodology. No discrepancies were identified.<br><br>The baseline survey results correspond to the situation observed during on site assessment to the selected schools. Moreover, this observed situation was also cross checked against public information such as the Rural Drinking Water Quality Management Framework[5] (See section 2, page 2, current status of rural drinking water quality management). No discrepancies were identified. |
| $EF_{b,f,CO2}$<br><br>$CO_2$ emission factor from use of fuels<br><br>(SDWS 9) | Wood: 112 $tCO_2/TJ$ | IPCC | Information from parameter was correctly given. Source is the IPCC [P] but value is given by the applied methodology. No discrepancies were identified. |
| $EF_{b,f,non-CO2}$<br><br>Non-$CO_2$ emission factor from use of fuels, in case the baseline fuel is biomass or charcoal<br><br>(SDWS 10) | Wood: 9.46 $tCO_2/TJ$ | IPCC | Information from parameter was correctly given. Source is the IPCC [P] but value is given by the applied methodology. No discrepancies were identified. |
| $\eta wb$<br><br>Weighted average efficiency of the baseline water boiling devices. Calculate the | 3-stone: 10%; Imbabura: 10%; Muvero: 10%; Muvero (good conditions): 10%; Rondereza: 10% | Applied methodology | Information from parameter was correctly given. Source is the default values given by the applied methodology. No discrepancies were identified. |

| | | | |
|---|---|---|---|
| weighted average of the water boiling efficiency in the project boundary using the proportion of different stove types used and the stove efficiencies.<br><br>(SDWS 11) | | | |
| $C_b$<br><br>Proportion of project end-users who in the baseline were already using safe water, either from an improved water source, or from a water treatment method other than boiling<br><br>(SDWS 12) | 0% | Baseline Survey | Information from parameter was correctly given. Source is the Baseline survey template questions/10/ and the Baseline survey results/11/ which is aligned with the description of the applied methodology. No discrepancies were identified.<br><br>The baseline survey results correspond to the situation observed during on site assessment to the selected schools. Moreover, this observed situation was also cross checked against public information such as the Rural Drinking Water Quality Management Framework/5/ (See section 2, page 2, current status of rural drinking water quality management). No discrepancies were identified. |
| qi<br><br>Capacity of the institutional water treatment technology<br><br>(SDWS 13) | 27.2 L/h | Manufacturer specifications | Information from parameter was correctly given. Source is manufacturer information/4/ which is aligned with the description of the applied methodology. No discrepancies were identified. |
| fNRB,f,y<br><br>Fractional non-renewability status of woody biomass fuel during year y, in case the baseline fuel is biomass<br><br>(SDWS 21) | 84.85% | CDM Tool 30 Calculation of The fraction of Non-renewable Biomass/ | Value calculated. The VT has checked the fNRB calculation/3/ provided by the PD. It can be concluded that the calculation of fNRB has been followed the CDM Methodological tool 30: Calculation of the fraction of non-renewable biomass/D-3/. No discrepancies were identified |

The VT confirms:

a) CAR 02 has been raised and successfully closed.

b) All data sources and assumptions are appropriate and calculations are correct as applicable to the proposed VPA and will result in an accurate and conservative estimate of emission reductions;

c) All the values used against sources and the authenticity of sources has been validated and the VT confirms that all relevant parameters to calculate the GHG emissions reductions of the VPA have been sufficiently considered and the value of the ex-ante fixed parameter used for emission reduction calculation has been determined conservatively and are reasonable.

## 3.5 Data and parameters monitored

The data and parameters to be monitored during the monitoring period are assessed as follow:

**Related to water quality:**

| | | |
|---|---|---|
| **1. (SDWS 18) $M_{q,y}$: Ongoing water quality indicated as the fraction of the samples that pass microbial quality standard requirements specified in relevant microbial quality standard for drinking water of the host country.** | | |
| **Means of verification** | **Criteria/Requirements** | **Assessment** |
| | Measuring /Reading /Recording frequency | According to the applied methodology, annual sampling, and the first round of testing shall be conducted at least after six months from the start date. Project developers may choose to undertake testing more.<br><br>The water quality test results/15/ and the corresponding water quality test interpretation guidance/16/ has been checked. The first round of tests has been conducted at least after six months from the start date. Concluding that the frequency of testing has been done as per the requirements of the applied methodology. No discrepancies were identified. |
| | Monitoring equipment | No monitoring equipment is required. The applied methodology requires either approved laboratories or using field testing kits. The VPA has use field testing kits. The water quality test results/15/ which the field testing kits are described (including photos) and the interpretation guidance/16/ have been checked. Furthermore. During on site visit, employees explained the method of performing the water quality tests which were aligned with the water quality tests technical specifications/14/. No discrepancies were identified. The field testing kits fulfill the requirements of the applied methodology regarding:<br><br>(a) Testing kits must be approved by relevant international organization: according to evidence water quality tests technical |

| | | |
|---|---|---|
| | | specifications[14], testing kits are approved by WHO.<br>(b) Testing kits shall be tested for its accuracy and robustness prior to application: according to evidence water quality tests technical specifications[14], Aquagenx testing kits results were tested by an independent laboratory assessment. The evaluation was carried out at KWR Research Laboratory with support from the WHO/UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene (JMP) following a protocol established by WHO. The Aquagenx kit successfully passed the test. The report is dated Ocober 2022, which is prior to field application of the VPA.<br>Both conditions are fulfilled. |
| | Calibration frequency /interval: | Not applicable as not monitoring equipment is required by the applied methodology. |
| | How were the values in the monitoring report verified? | The value reported is 1 which indicates the fraction of the samples that pass microbial quality standard requirements specified in relevant microbial quality standard for drinking water of the host country. This means all samples passed the test. The water quality test results[15] have been checked to confirm that all tests have passed the microbial quality standard requirements[16]. This is self-explained in the test results where the test were positive.<br>No discrepancies were identified. |
| | Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place? | Both conditions required by the applied methodology to be met have been positively demonstrated by the PD. This means that the testing kits have been approved by a relevant international organization (Who) and (b) testing kits have been tested for its accuracy and robustness prior to application. |
| | Other criteria | N/A |
| **Findings** | CAR 02 has been raised and successfully closed. | |
| **Conclusion** | The parameter has been monitored appropriately, in accordance with the registered monitoring plan[04] (as per measurement methods and procedures to be applied) and applied methodology[B]. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan. | |

**2. (SDWS 20) Water hygiene education campaigns**

<table>
<tr><td>Means of verification</td><td>
<table>
<tr><th>Criteria/Requirements</th><th>Assessment</th></tr>
<tr><td>Measurement methods / Measuring frequency</td><td>According to the applied methodology, hygiene campaigns shall be carried out annually among project safe water end-users. Evidence of the "Hygiene campaigns" have been provided.<br><br>The hygiene campaigns are taken place at least annually as per required by the applied methodology. This means one (1) campaign per year. Further activities are done by the school on a regular basis (more than on a yearly basis) in the daily/weekly assemblies with the children.</td></tr>
<tr><td>Monitoring equipment</td><td>Not applicable as no monitoring equipment is required by the applied methodology.</td></tr>
<tr><td>Calibration frequency /interval:</td><td>Not applicable as no monitoring equipment is required by the applied methodology.</td></tr>
<tr><td>How were the values in the monitoring report verified?</td><td>Evidence of the "Hygiene campaigns" and the "Report of annual hygiene campaigns results" required by the applied methodology have been checked. No discrepancies were identified.</td></tr>
<tr><td>Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?</td><td>According to the applied methodology, the fraction of the households where Safe water and Hygiene practices are found to fulfill "safely managed" or "basic" requirements is expected to increase over time as a result of the hygiene campaigns. This has been cross checked against on-site interviews. No discrepancies were identified.</td></tr>
<tr><td>Other criteria</td><td>N/A</td></tr>
</table>
</td></tr>
<tr><td>Findings</td><td>CAR 02 has been raised and successfully closed.</td></tr>
<tr><td>Conclusion</td><td>The parameter has been monitored appropriately, in accordance with the registered monitoring plan/04/ (as per measurement methods and procedures to be applied) and applied methodology/B/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.</td></tr>
</table>

**Related to emission reductions:**

<table>
<tr><td colspan="2">3. (SDWS 22) X$cleanboil,y$: Proportion of project end-users that boil safe (treated, or from safe supply) water after installation of project technology in year y.</td></tr>
<tr><td>Means of verification</td><td>
<table>
<tr><th>Criteria/Requirements</th><th>Assessment</th></tr>
</table>
</td></tr>
</table>

| | | |
|---|---|---|
| | Measurement methods / Measuring frequency | According to the applied methodology, the proportion of project end-users that boil safe (treated, or from safe supply) water after installation of project technology shall be done through a project survey. The Monitoring survey template questions/12/ and the Monitoring survey results including SDGs monitoring results/13/ have been checked. It is indeed a question to evaluate whether the users boil the filter water after installation of project technology. In no case this situation happens. Hence the value reported of "0" is correct. Furthermore, the frequency of the project survey has been done as per the requirements of the applied methodology. No discrepancies were identified. |
| | Monitoring equipment | Not applicable as no monitoring equipment is required by the applied methodology. |
| | Calibration frequency /interval: | Not applicable as no monitoring equipment is required by the applied methodology. |
| | How were the values in the monitoring report verified? | The value applied is zero. The Monitoring survey template questions/12/ and the Monitoring survey results including SDGs monitoring results/13/ have been checked. In all cases, no school still boils water after the installation of the water filters. The reason behind is that boiling water represents extra cost due to the fire wood to be used for this purpose. This has been checked during on site visit through interviews and observation.. No discrepancies were identified. |
| | Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place? | No QA/QC to be applied as per the applied methodology. |
| | Other criteria | The monitoring is determined through a project survey. The Verification team during on-site visit verified a total of 8 samples from the CME sample list and all interviewees confirmed that no user boils safe (filtered) water after installation of project technology. Hence, no discrepancies have been observed from the result presented by CME and VVB sampling. |
| **Findings** | No findings have been raised. | |
| **Conclusion** | The parameter has been monitored appropriately, in accordance with the registered monitoring plan/04/ (as per measurement methods and procedures to be applied) and applied methodology/B/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan. | |

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**4. (SDWS 24) $QPWp$: Volume of drinking water per person per day for premises type p**

**Means of verification**

| Criteria/Requirements | Assessment |
|---|---|
| Measurement methods / Measuring frequency | According to the applied methodology, there are two options to monitor the parameter:<br>- Option 1: Apply default values;<br>- Option 2: Water Consumption Field Tests.<br>Option 1 has been selected by the PD and default values have been applied:<br>- Full-day premises: 4 L/person/day<br>- Boarding school: 4 L/person/day<br>- Half-time premises: 3 L/person/day<br>After corrections have been done, default values have been correctly used. |
| Monitoring equipment | Not applicable as not monitoring equipment is required by the applied methodology. |
| Calibration frequency /interval: | Not applicable as not monitoring equipment is required by the applied methodology. |
| How were the values in the monitoring report verified? | Cross checking default values given by the applied methodology with values given in the MR. Some discrepancies were observed. Thus CAR 02 has been raised and successfully closed. |
| Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place? | No QA/QC to be applied as per the applied methodology. |
| Other criteria | N/A |

**Findings**

CAR 02 has been raised and successfully closed.

**Conclusion**

The parameter has been monitored appropriately, in accordance with the registered monitoring plan/04/ (as per measurement methods and procedures to be applied) and applied methodology/B/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.

**5. (SDWS 25) $HNp,y$: Number of individuals per premises type p in the project boundary in year y**

**Means of verification**

| Criteria/Requirements | Assessment |
|---|---|
| Measurement methods / Measuring frequency | According to the applied methodology, for the monitoring, any of the following sources shall be used:<br>- Project survey<br>- Official government publications or statistics<br>- Credible published literature for project region,<br>- Studies by academia, NGOs or multilateral institutions<br>Source applied must not be more than 3 years old. When a project survey is used, follow the section 4.2 \|General requirements for sampling, below.<br>Project survey has been selected by the PD based on the official installation records provided by the head teacher . A total amount of 133,156 individuals have been reported. An average individual per school, including students and staff is as follow:<br>- Part time school: 609<br>- Full-time school: 867<br>- Boarding school 619<br>Furthermore, the frequency of the project survey has been done as per the requirements of the applied methodology. No discrepancies were identified. |
| Monitoring equipment | Not applicable as not monitoring equipment is required by the applied methodology. |
| Calibration frequency /interval: | Not applicable as not monitoring equipment is required by the applied methodology. |
| How were the values in the monitoring report verified? | The Monitoring survey template questions/12/ and the Monitoring survey results including SDGs monitoring results/13/ have been checked. |
| Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place? | According to the applied methodology, the value applied shall be cross-checked against at least one other source on the list. For cross-check purposes, sources applied may be up to 5 years old. Further, cross-check with older sources may be used provided they provide conservative results. Thus CAR 02 has been raised and successfully closed. The PD has crossed checked the value applied against official government data/25/. No discrepancies were identified. |

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| | Other criteria | The monitoring is determined through a project survey. The Verification team during on-site visit verified a total of 8 samples from the CME sample list and all interviewees confirmed that no user boils safe (filtered) water after installation of project technology. Hence, no discrepancies have been observed from the result presented by CME and VVB sampling. |
| **Findings** | CAR 02 has been raised and successfully closed. | |
| **Conclusion** | The parameter has been monitored appropriately, in accordance with the registered monitoring plan/04/ (as per measurement methods and procedures to be applied) and applied methodology/B/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan. | |

**6. (SDWS 28) $N_{p,y}$: Accumulated number of premises type p with at least one individual project technology in year y**

| **Means of verification** | **Criteria/Requirements** | **Assessment** |
|---|---|---|
| | Measurement methods / Measuring frequency | According to the applied methodology, sales or distribution records shall be used as a source, which shall include:<br>i. Date of sale/distribution<br>ii. Geographic area of sale<br>iii. Model/type of project technology sold<br>iv. Quantity of project technologies sold<br>Name and telephone number, and address (if available) or other traceable indicator of premises identity and location for all end users.<br>The PD provided a filter installation database/22/ which has the following information: school name, school ID, filter name, filter ID, type of asset, treatment type, latitude, longitude and installation date. Proper information has been given as per requirements of the applied methodology. Furthermore, the frequency established by the applied methodology has been followed. No discrepancies were identified. |
| | Monitoring equipment | Not applicable as not monitoring equipment is required by the applied methodology. |
| | Calibration frequency /interval: | Not applicable as not monitoring equipment is required by the applied methodology. |

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| | How were the values in the monitoring report verified? | The value given is 154 (4 Boarding schools, 150 full-time schools) which is aligned with the filter installation database[/22/]. No discrepancies were identified. |
| | Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place? | The PD provided a filter installation database[/22/] which has the required information by the applied methodology. No discrepancies were identified. |
| | Other criteria | N/A |
| **Findings** | No findings have been raised. | |
| **Conclusion** | The parameter has been monitored appropriately, in accordance with the registered monitoring plan[/04/] (as per measurement methods and procedures to be applied) and applied methodology[/B/]. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan. | |

**7. (SDWS 29) $U_{p,y}$: Usage rate of the project technology by premises type p during year y**

| **Means of verification** | **Criteria/Requirements** | **Assessment** |
|---|---|---|
| | Measurement methods / Measuring frequency | According to the applied methodology, there are two options to determine the usage rate:<br>- Option 1: In-person survey of project premises (e.g. households, schools) covering all topics outlined in Annex 1 of the applied methodology.<br>- Option 2: Survey performed by telephone or messaging (e.g. text, app).<br>Option 1 has been selected by the PD which is aligned with the options given by the applied methodology. No discrepancies were identified. Furthermore, the frequency of the project survey has been done as per the requirements of the applied methodology. No discrepancies were identified. |
| | Monitoring equipment | Not applicable as not monitoring equipment is required by the applied methodology. |
| | Calibration frequency /interval: | Not applicable as not monitoring equipment is required by the applied methodology. |

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| | How were the values in the monitoring report verified? | The Monitoring survey template questions[/12/] and the Monitoring survey results including SDGs monitoring results[/13/] have been checked. It is indeed several questions included regarding the usage of the filter. These questions are aligned with Annex 1 of the applied methodology (Topic 2, usage rate). No discrepancies were identified. This has been cross checked during on site assessment. In all cases, the school were using permanently the water filters. |
| | Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place? | Not applicable for the VPA. |
| | Other criteria | The monitoring is determined through a project survey. The Verification team during on-site visit verified a total of 8 samples from the CME sample list and all interviewees confirmed that no user boils safe (filtered) water after installation of project technology. Hence, no discrepancies have been observed from the result presented by CME and VVB sampling. |
| **Findings** | No findings have been raised. | |
| **Conclusion** | The parameter has been monitored appropriately, in accordance with the registered monitoring plan[/04/] (as per measurement methods and procedures to be applied) and applied methodology[/B/]. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan. | |

| **8. (SDWS 30) $t_{p,y}$: Usage time of the project technology by premises type p in year y** | | |
|---|---|---|
| **Means of verification** | **Criteria/Requirements** | **Assessment** |
| | Measurement methods / Measuring frequency | According to the applied methodology, there are three options to monitor the parameter:<br>- Option 1. Observational sample-based survey of project household practices.<br>- Option 2. Interview survey performed by telephone or messaging (e.g. text, app).<br>- Option 3. Default of 5 hours.<br>As per the VPA-DD, the usage time of the filters is based on official schools working hours defined by Ministry of Education Rwanda in the official school |

| | | |
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| | | calendar/R/ which can be considered as per option 1 (8 hours) as this is the official time of working hours were the students are presented in the school and when the filters are used. This has been also observed during on-site visit. No discrepancies were identified. |
| | Monitoring equipment | Not applicable as not monitoring equipment is required by the applied methodology. |
| | Calibration frequency /interval: | Not applicable as not monitoring equipment is required by the applied methodology. |
| | How were the values in the monitoring report verified? | Cross checking default values given by the applied methodology with values given in the MR. No discrepancies were identified. |
| | Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place? | No QA/QC to be applied as per the applied methodology. |
| | Other criteria | N/A |
| **Findings** | No findings have been raised. | |
| **Conclusion** | The parameter has been monitored appropriately, in accordance with the registered monitoring plan/04/ (as per measurement methods and procedures to be applied) and applied methodology/B/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan. | |

| **9. (SDWS 31) $DP_{p,y}$: Average days the project technology is present for end-users in the premises p in year y** | | |
|---|---|---|
| **Means of verification** | **Criteria/Requirements** | **Assessment** |
| | Measurement methods / Measuring frequency | According to the applied methodology, the average days the project technology is present for end-users shall be determined by the sales or distribution records. Furthermore, it is also stated:<br>"For schools and other institutions, as applicable, the days must also be limited by the number of school days in the period, taking into account weekends and holidays".<br>The PD provided used the school calendar/R/ issued by the MINEDUC. The value applied is 207 days. No discrepancies were identified. Furthermore, the |

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| | | frequency established by the applied methodology has been followed. No discrepancies were identified. |
| | Monitoring equipment | Not applicable as not monitoring equipment is required by the applied methodology. |
| | Calibration frequency /interval: | Not applicable as not monitoring equipment is required by the applied methodology. |
| | How were the values in the monitoring report verified? | The calculation of the value given of 207 days have been checked directly in the ER/10/ sheet corresponding to the monitoring period. No discrepancies were identified. |
| | Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place? | The number of school days have been used. The PD provided used the school calendar/R/ issued by the MINEDUC. No discrepancies were identified. |
| | Other criteria | N/A |
| **Findings** | No findings have been raised. | |
| **Conclusion** | The parameter has been monitored appropriately, in accordance with the registered monitoring plan/04/ (as per measurement methods and procedures to be applied) and applied methodology/B/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan. | |

**10. (SDWS 32) $DN_{p,y}$: Average number of individual project technologies in each project premises type p in year y**

| **Means of verification** | **Criteria/Requirements** | **Assessment** |
|---|---|---|
| | Measurement methods / Measuring frequency | According to the applied methodology, sales or distribution records shall be used as a source. Furthermore, the methodology also requires:<br>"Based on the sales or distribution records of "Quantity of project technologies sold" and identifying information of buyer/recipient, calculate the average number of project devices per premises".<br>The PD provided a filter installation database/22/ which can be obtained the Average number of individual project technologies in each project premises. Proper information has been given as per requirements of the applied methodology. Furthermore, the frequency established by the |

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|---|---|---|
| | | applied methodology has been followed. No discrepancies were identified. |
| | Monitoring equipment | Not applicable as not monitoring equipment is required by the applied methodology. |
| | Calibration frequency /interval: | Not applicable as not monitoring equipment is required by the applied methodology. |
| | How were the values in the monitoring report verified? | The value given of 8.21 filters is aligned with the filter installation database/22/ and the ER sheet/10/ corresponding to the monitoring period. No discrepancies were identified. |
| | Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place? | No QA/QC to be applied as per the applied methodology. |
| | Other criteria | N/A |
| **Findings** | No findings have been raised. | |
| **Conclusion** | The parameter has been monitored appropriately, in accordance with the registered monitoring plan/04/ (as per measurement methods and procedures to be applied) and applied methodology/B/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan. | |

| **11. (SDWS 35) LEy: Leakage emissions during year y** | | |
|---|---|---|
| **Means of verification** | **Criteria/Requirements** | **Assessment** |
| | Measurement methods / Measuring frequency | According to the applied methodology/B/ leakage relating to the non-renewable woody biomass shall be assessed. Other types of leakage are excluded for simplification. Furthermore, according to paragraph 3.8.3:<br><br>"If the ex-ante evaluation shows that leakage emissions are less than 5% of total emission reductions, then no monitoring is needed, and emission reductions simply shall be adjusted 5% down. In this case, the sources and magnitude of leakage emissions must be reassessed at the time of crediting period renewal". |

| | | |
|---|---|---|
| | | It has been determined ex-ante that leakage emissions are less than 5% of total emission reductions. Hence, no monitoring is required. |
| | Monitoring equipment | N/A |
| | Calibration frequency /interval: | N/A |
| | How were the values in the monitoring report verified? | N/A |
| | Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place? | N/A |
| | Other criteria | N/A |
| **Findings** | No findings have been raised. | |
| **Conclusion** | The parameter has been monitored appropriately, in accordance with the registered monitoring plan/04/ (as per measurement methods and procedures to be applied) and applied methodology/B/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan. | |

**Conclusion:**

Based on the assessment of monitoring survey and sampling records and their analysis sheets for the related parameters, it is concluded that all the parameters have been monitored correctly in accordance with registered monitoring plan and the applied methodology.

The verification team can confirm that all sampled parameters have been determined correctly in line with the registered corresponding CPA-DD and the sampling standard. For all the parameters, the achieved 90% confidence interval and a 10% margin of error is demonstrated to be met.

Based on above along with the on-site visit and interview and sample inspection records of the VPA, the verification team concludes the approach and result deemed appropriate and acceptable.

## 3.6 Assessment of reported SDG parameters:

The data and SDG parameters to be monitored during the monitoring period are assessed as follow:

**1. SDG 7 Affordable and clean energy: Number of beneficiaries: Individuals**

**Means of verification**

| Criteria/Requirements | Assessment |
|---|---|
| Measuring /Reading /Recording frequency | Installation records have been used to determine the number of beneficiaries. A total amount of 133,156 individuals have been reported.<br><br>The PD provided a filter installation database/22/ which can be obtain the number of beneficiaries. No discrepancies were identified. |
| Monitoring equipment | Not applicable as not monitoring equipment is required by the applied methodology. |
| Calibration frequency /interval: | Not applicable as not monitoring equipment is required by the applied methodology. |
| How were the values in the monitoring report verified? | The value given of 133,156 is aligned with the filter installation database/22/. No discrepancies were identified. |
| Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place? | The value shall be cross checked with the project survey. The Monitoring survey template questions/12/ and the Monitoring survey results including SDGs monitoring results/22/ have been checked. No discrepancies were identified. |
| Other criteria | N/A |

**Findings**

CAR 02 has been raised and successfully closed.

**Conclusion**

The parameter has been monitored appropriately, in accordance with the registered monitoring plan/04/ (as per measurement methods and procedures to be applied) and applied methodology/B/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.

**2. SDG 6 Clean water and sanitation: Proportion of population using safely managed drinking water services**

**Means of verification**

| Criteria/Requirements | Assessment |
|---|---|

| | | |
|---|---|---|
| | Measuring /Reading /Recording frequency | The project Survey of the premises using a project technology to determine the usage rate of the project technology during the year.<br>The Monitoring survey template questions/12/ and the Monitoring survey results including SDGs monitoring results/13/ have been checked. No discrepancies were identified. Furthermore, the frequency of the project survey has been done as per the requirements of the applied methodology. No discrepancies were identified. |
| | Monitoring equipment | Not applicable as not monitoring equipment is required by the applied methodology. |
| | Calibration frequency /interval: | Not applicable as not monitoring equipment is required by the applied methodology. |
| | How were the values in the monitoring report verified? | The value of 98% has been given. The Monitoring survey template questions/12/ and the Monitoring survey results including SDGs monitoring results/13/ have been checked. It is indeed several questions included regarding the usage of the filter. These questions are aligned with Annex 1 of the applied methodology (Topic 2, usage rate). No discrepancies were identified. |
| | Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place? | No QA/QC to be applied. |
| | Other criteria | N/A |
| **Findings** | No findings have been raised. | |
| **Conclusion** | The parameter has been monitored appropriately, in accordance with the registered monitoring plan/04/ (as per measurement methods and procedures to be applied) and applied methodology/B/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan. | |

| **3. SDG 8 Decent Work and Economic Growth: total number of jobs created (during Distribution and monitoring, and Evaluation)** | | |
|---|---|---|
| **Means of verification** | **Criteria/Requirements** | **Assessment** |
| | Measuring /Reading /Recording frequency | Total number of jobs created come from human resources records. |

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| | | The staff contracts/21/ have been provided. No discrepancies were identified with the value of 11 jobs created. |
| | Monitoring equipment | Not applicable as not monitoring equipment is required by the applied methodology. |
| | Calibration frequency /interval: | Not applicable as not monitoring equipment is required by the applied methodology. |
| | How were the values in the monitoring report verified? | Review the staff contracts/21/. Furthermore, interviews were also performed on site for cross check purposes. No discrepancies were identified. |
| | Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place? | Contracts/21/ have been provided and checked. No discrepancies were identified. |
| | Other criteria | N/A |
| **Findings** | No findings have been raised. | |
| **Conclusion** | The parameter has been monitored appropriately, in accordance with the registered monitoring plan/04/ (as per measurement methods and procedures to be applied) and applied methodology/B/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan. | |

**Conclusion:**

Based on the assessment of monitoring survey and sampling records and their analysis sheets for the related parameters, it is concluded that all the parameters have been monitored correctly in accordance with registered monitoring plan and the applied methodology.

The verification team can confirm that all sampled parameters have been determined correctly in line with the registered corresponding CPA-DD and the sampling standard. For all the parameters, the achieved 90% confidence interval and a 10% margin of error is demonstrated to be met.

Based on above along with the on-site visit and interview and sample inspection records of the VPA, the verification team concludes the approach and result deemed appropriate and acceptable.

## 3.7 Implementation of grievance mechanism:

The assessment team interviewed local stakeholders during the on-site verification and confirmed that local stakeholders were satisfied about the project and do not have any negative comments. The users are of the positive opinion on the positive effects of the water filters. All the stakeholders were aware of the grievance mechanism and knows how to contact the CME in case

of grievances. There is no formal complaint received during the current monitoring period. There is a grievance process book which is located at KK 15 Road Silverback Mall, Third Floor, Unit Number SB1-313. Kigali, Rwanda. This is aligned with the paragraph 3.8.3 of the Stakeholder Consultation and Engagement Requirements/A-6/. No discrepancies were identified.

Based on the information verified during interviews of users and CME personnel during the on-site visit, the verification team able to conclude that:

- The grievance mechanism implemented is in place, and
- Complaints received from users are consistently recorded, however no formal complaints received during the current monitoring period.

## 3.8 Assessment of Data and Calculation of Greenhouse Gas Emission Reductions

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|---|---|
| **Means of verification** | The following equations were used to determine the baseline emissions as provided in the monitoring report and applied in the corresponding ER calculations sheets. The expressions used were found consistent with the registered PoA-DD, registered CPA-DD and the applied methodology.<br><br>According to the applied methodology/B/ the quantification method for baseline, project, and leakage emissions are described as follow:<br><br>**Baseline emissions:**<br><br>Baseline emissions is calculated as per equation 3:<br><br>$BE^{y} = EF_{b} \times (1 - Cb - X_{cleanboil,y}) \times Qy \times Mq,y$<br><br>Where:<br><br>$BE_{y}$ = Baseline emissions from the use of fuel to obtain safe water in the baseline ($tCO_2e$)<br>$Cb\_$ = Proportion of project end-users who in the baseline were already using a safe water supply that did not require boiling (%)<br>$X_{cleanboil,y}$ = Proportion of project end-users that boil safe water in the project year y (%)<br>$Qy$ = Quantity of safe drinking water provided by the project in year y (L)<br>$Mq,y$ = Modifier for the water quality in year y<br><br>The baseline emission factor is calculated as per equation 1:<br><br>$EF_{b} = SE_{w,b,y} * \sum_{f}(x_{f} * (EF_{b,f,CO2} * f_{NRB,f,y} + EF_{b,f,nonCO2}))\ f \div 10^{9}$<br><br>Where:<br><br>$EF_{b}$ = Emission factor for the use of fuel to obtain safe water in the baseline ($tCO_2e/L$) |

| | |
|---|---|
| | $SE_{w,b,y}$ = Specific energy required to boil water (kJ/L), to be calculated as per the paragraph below<br>$x_f$ = Proportion of fuel f used in the baseline (fraction determined based on an energy basis)<br>$EF_{b,f,CO2}$ = $CO_2$ emission factor from use of fuel f ($tCO_2/TJ$)<br>$EF_{b,f,nonCO2}$ = Non-$CO_2$ emission factor arising from use of fuel f, when the baseline fuel f is biomass or charcoal ($tCO_2e/TJ$). This parameter is omitted when f is a fossil fuel.<br>$f_{NRB,f,y}$ = Fractional non-renewability status of woody biomass fuel during year y (fraction). For biomass, it is the fraction of woody biomass that can be established as non-renewable. This parameter is omitted when f is a fossil fuel.<br>$f$ = Index for baseline fuel types<br><br>The specific energy required to boil water using the baseline technology ($SE_{w,b,y}$) is determined as follows, by calculating the energy input required to obtain 1 L of boiling water, including boiling and vaporization losses[2], and taking into account default or measured stove efficiency.<br><br>$SE_{w,b,y} = 360.83/\eta wb$<br><br>Where:<br><br>360.83 = Default amount of energy required to obtain 1 L of water after 5 minutes of boiling from a first principles approach[3] kJ/l<br><br>The quantity of safe drinking water ($Q_y$) provided by the project is calculated using one of two methods. Method 1 applies to CWT and CWS, and Method 2 applies to HWT and IWT. As the VPA is implementing institutional water treatment technologies (IWT) in all public schools (hence full day/boarding), method 2 shall be used with equation 6:<br><br>$Q_y = \sum_p N_{p,y} \times U_{p,y} \times QPW_{hh,p,y} \times DPp,y$<br><br>$N_{p,y}$ = Number of premises type p with at least one project technology in year y<br>$U_{p,y}$ = Usage rate of the project technology by premises type p during year y (%)<br>$QPW_{hh,p,y}$ = Volume of drinking water per premises p per day in year y (L)<br>$DP_{p,y}$ = Days the project technology is present for end-users in the premises p in year y |

[2] The previous version of TPDDTEC Annex 3 assumed that purifying water by boiling would require boiling water for 10 minutes. This assumption was revised to 5 minutes, following WHO technical information that less than 5 minutes of boiling is sufficient for inactivation of enteric bacteria (Technical Brief WHO/FWC/WSH/15.02, 2015).
[3] This is calculated from the specific heat of water of 4.186 kJ/L °C, the difference between the initial and final water temperature assuming a start at 20°C and end at 100°C, evaporation of 1% of water during 5 minutes of boiling to obtain 1 L boiled water, and latent heat of water evaporation of 2260 kJ/L. Also, the latent heat required to boil one liter of water for five minutes is assumed to be equivalent to latent heat for the evaporation of 1% of the water volume.

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| | The volume of drinking water per premises per day is determined by considering whether the capacity of the project device is sufficient to provide at least the default amount of drinking water, as equation 7:<br>$QPW_{hh,p,y}$ = min $((qi \times t_{p,y} \times DN_{p,y}), (QPWp \times HN_{p,y}))$<br>Where:<br>$qi$ = Capacity of the HWT or IWT individual project technology (L/h)<br>$t_{p,y}$ = Usage time of the project technology by premises type p in year y (h/day)<br>$DN_{p,y}$ = Average number of individual project technologies in each project premises type p in year y<br>$HN_{p,y}$ = Number of individuals per premises type p (e.g., household, school) in year y<br>$QPW_p$ = Volume of drinking water per person per day for premises type p (L). Apply the default value or monitored value through water consumption field tests in the project scenario, capped at 5.5 L per person per day.<br><br>The ER calculation spreadsheet clearly and transparently describes the calculation of baseline emissions. The assessment team re-produced the calculation process and confirmed that the methods and formulae used to obtain the baseline is appropriate. The calculation has been done in accordance with the methods and formulae described in the registered monitoring plan and applicable methodology. The reported data have been cross-checked against other sources available as explained above in the report. Furthermore, as a cross check, the PD has also calculated the ER for the 100% of the data. The difference between the ER applying the sample (7,730 $tCO_2e$) and the ER considering 100% of the data (7,665 $tCO_2e$) is insignificant. Hence, it can be concluded that the sampling approach was correctly applied. |
| **Findings** | CAR 03 has been raised and successfully closed. |
| **Conclusion** | The assessments team confirms that:<br><br>a) The complete data was available and is duly reported.<br>b) As indicated above, the description about cross-check of reported data is included under respective parameter (refer Section E.3.4.2 of this report).<br>c) Appropriate methods and formulae for calculating baseline GHG emissions or baseline net GHG removals were followed.<br>d) Appropriate emission factors, IPCC default factors and other reference values were correctly applied. |

### 3.8.1. Calculation of project GHG emissions or actual net GHG removals by sinks

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| **Means of verification** | According to the applied methodology/B/ project emissions may result from the fossil fuel and/or electricity that is consumed from new low-emission water treatment technologies.<br><br>LifeStraw® technology does not use fossil fuel or electricity for filtration/4/; thus, the project emissions would be zero. |
| **Findings** | No finding was raised |
| **Conclusion** | The VT able to confirm that the determination of project emissions has been carried out in accordance with the determinations of the registered monitoring plan and the applied methodology. No errors, miscalculations, omissions, misstatements, or incomplete information have been identified. |

### 3.8.2. Calculation of leakage GHG emissions

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| **Means of verification** | According to the applied methodology/B/ leakage relating to the non-renewable woody biomass shall be assessed. Other types of leakage are excluded for simplification. Furthermore, according to paragraph 3.8.3:<br><br>"If the ex-ante evaluation shows that leakage emissions are less than 5% of total emission reductions, then no monitoring is needed, and emission reductions simply shall be adjusted 5% down. In this case, the sources and magnitude of leakage emissions must be reassessed at the time of crediting period renewal".<br><br>According to the VPA-DD:<br><br>a) The availability of renewable biomass is limited in the project geographic boundary, this is evident in the value of the fNRB. Therefore, it is not expected the use of renewable biomass or the use of low emitting technology increase among population that do not participate in the project.<br><br>b) Although the project expects to reduce the demand and consumption of NRB, the contribution in the overall fraction of NRB is not expected to lead a shift that would require other projects to account it in their baseline scenarios.<br><br>c) Because the climate zone where the project is located, space heating does not influence the consumption of biomass fuel. Apart from boarding schools, school kitchens are not occupied permanently as households. Therefore, heating space concerns are not relevant for the present VPA.<br><br>The VT has checked the fNRB calculation/3/ provided by the PD. It can be concluded that the calculation of fNRB has been followed the CDM Methodological tool 30: Calculation of the fraction of non-renewable biomass/D-3/. No discrepancies were identified. The difference between calculated fNRB and fNRB reported in relevant scientific literature is not material. Hence, it can |

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| | be concluded that leakage is considered null and can be ignored for the calculation of the Emission Reductions. |
| **Findings** | No finding was raised. |
| **Conclusion** | The VT able to confirm that the determination of leakage emissions has been carried out in accordance with the determinations of the registered monitoring plan and the applied methodology. No errors, miscalculations, omissions, misstatements, or incomplete information have been identified. |

### 3.8.3. Summary of calculation of GHG emission reductions or net anthropogenic GHG removals by sinks

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| **Means of verification** | The verification team has reviewed the calculation of GHG emission reductions in the final MR and ER spreadsheet[/10/] as per the registered VPA-DD and the applied methodology. As per the applicable methodology, the emission reduction is calculated as:<br><br>$ER_y = BE_y – PE_y - LE_y$<br><br>The assessment team verified that the ER excel spreadsheet, the ER for each month has been calculated. The sum of the ER for each month has been rounded down to arrive at the total ER for the current monitoring period. Therefore, the PP has considered the conservative ER value as 7,665 $tCO_2e$. |
| **Findings** | No finding was raised. |
| **Conclusion** | The verification team confirms that<br>a) The complete data was available and is duly reported.<br>b) As indicated above, the description about cross-check of reported data is included under respective parameter.<br>c) Appropriate methods and formulae for calculating baseline GHG emissions or baseline net GHG removals, project emissions and leakage emissions were followed.<br>d) Appropriate emission factors, IPCC default factors and other reference values were correctly applied. |

### 3.8.4. Comparison of actual GHG emission reductions or net anthropogenic GHG removals by sinks with estimates in registered PDD

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| **Means of verification** | As verified and evident from the final Monitoring Report[/9/] and corresponding ER sheet[/10/], the actual emission reductions achieved by the project activity in the current monitoring period were found 5% higher than the estimated quantity in the registered VPA-DD[/04/] for the comparable period.<br><br>7,665 $tCO_2e$<br>7,665 $tCO_2e$ |
| **Findings** | No finding was raised. |

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| **Conclusion** | A comparison of actual GHG emission reductions or net anthropogenic GHG removal of the VPA achieved during this monitoring period with the estimates in the registered PDD has been provided in the Monitoring Report. The verification team confirms that the calculation of the comparison is correct. |

### 3.8.5. Remarks on difference from estimated value in registered PDD

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| **Means of verification** | As verified through the ER calculation sheet the actual emission reductions were higher than the estimation in the registered GS VPA-DD for an equivalent length of the monitoring period.<br><br>It is to be noted that the ex-ante ERs calculation in the VPA-DD was based on the estimated numbers from the baseline survey, however in the current monitoring period actual values are used. Nevertheless, 5% is considered non material. |
| **Findings** | No finding was raised |
| **Conclusion** | The actual ERs are higher than the estimated quantity of ERs as given in the registered GS VPA-DD.<br><br>The additionality was demonstrated by the methodology requirements:<br><br>All VPAs will be solely composed of isolated units where the users of the technology/ measure are households or communities or institutions and where each unit results in <=<br>a. 600 MWh of thermal energy savings per year for ICS.<br>b. 600 $tCO_2$ per year for HWT and IWT technologies.<br><br>The premise is not affected by the increase in 5% and the value of 600 $tCO_2$ refers to a single filter and it has been demonstrated in the VPA-DD, that a single filter does not exceed the defined threshold by the methodology.<br><br>The applicability nor the demonstration of additionality is not impacted, hence, the assessment team has concluded that the increase in emission reductions of the project activity is justified and acceptable. |

## 3.9 Safeguard reporting

According to the MR, no mitigation measure defined for the safeguarding principles. The project has been implemented as per the design defined. There are no changes, neither updates, nor improvements that require adding mitigation measures.

According to the GS Principles & Requirements[/A-1/], the CME shall conduct the Safeguarding Principles Assessment and corresponding monitoring and reporting plan as per the Safeguarding Principles & Requirements at the real case VPA level. Moreover, according to the VPA-DD, the PD has selected option a) which is "safeguarding assessment and monitoring and reporting shall be conducted at the each regular VPA level".

All the safeguarding principles were considered and assessed, none was identified as relevant, applicable or with a potential risk identified. Hence, no mitigation measures are added to the monitoring plan. This is plausible as the on-site visit occurred simultaneously for the validation of the PoA and real case VPA. Hence, there is no changes from the original safeguarding reporting stated in the VPA-DD.

## 3.10 Grievances

According to the MR Virridy Carbon LLC (CME) and Virridy Rwanda LTD have been managed comments/feedback/support/concerns as part of the Continuous Inputs and Grievance Mechanisms.

The inputs and grievance process book is located at KK 15 Road Silverback Mall, Third Floor, Unit Number SB1-313. Kigali, Rwanda. The Record of grievances/comments received/20/ were checked. No comments nor complains have been received. It can be concluded that a grievance mechanism is in place and it is functional. This has been cross checked against interviews during on site assessment. No errors, miscalculations, omissions, misstatements, or incomplete information have been identified.

## 3.11 Management and Operational System

The verification team carried out on site visit to check the operations of the VPA covered under this verification and interviewed key personnel of the CME responsible for operation and management of the programme. Interviewees included the CME, water filters users, and others. It was established that the programme management system has been implemented and operated as described in the PoA and included VPA.

The information about the user, type and installed water filter under each VPA is stored in a central database called mWater that is maintained by the CME. Access to mWater is exclusive for Virridy staff. The ERP database records the unique identification number, location, GPS coordinate, name of school, photos of the water filter, photos of the signed MoU, filter barcode, date of installation, between other important information. Each water filter can be tracked. All filters visited during on site assessment were checked in mWater. No discrepancies were identified.

The CME is responsible for QA/QC of the data, analysis, and reporting into the monitoring report. For survey data, a monitoring team has been organized by the CME consisting of trained monitoring staff, who conducted the surveys.

The verification team assessed the management systems in place to implement the monitoring of the PoA. This included the roles and responsibilities, data collection, transfer and aggregation procedures, data storage and archiving for the monitoring system. The roles and responsibilities, data collection transfer and aggregation procedures, data storage and archiving for the monitoring system have been provided in the MR. All the data and documents, either hard copies or electric copies, will be kept for two years after the end of the last crediting period or the last issuance of GS ERs for this project, whichever occurs later.

It's verified during on site verification, the monitoring procedure as well as the internal quality management and control procedures are robust and implemented. The monitoring personnel have been interviewed by the assessment team and it's confirmed that the monitoring is implemented as per the procedure. The staff was interviewed to confirm they are qualified for conducting the surveys.

The verification team confirms that the monitoring management system of the PoA is in place with the responsibilities properly identified and established.

# 4. REFERENCES

## 4.1 List of evidence provided by the CME during verification:

| No | Author | Title | References to the document | Provider |
|---|---|---|---|---|
| 1 | CME | Key Project Information & Program Design Document (PoA-DD) | V1.6, 14/11/2024 | CME |
| 2 | CME | Key Project Information & VPA Design Document (VPA-DD) | V1.5, 20/11/2024 | CME |
| 3 | CME | **fNRB Calculation:**<br><br>"8_fNRB Calculation.xls" | - | CME |
| 4 | LifeStraw | **Filter(s) technical specifications:**<br><br>- "12.1_LifeStraw_Community_-_Filtration_Performance_Sheet.pdf"<br><br>- "12.2_LifeStraw_Community_User_manual.pdf"<br><br>- "12.3_LifestrawCommunity-EvidenceDossier-1544004763279.pdf" | - | CME |
| 5 | Republic of Rwanda | **Rural Drinking Water Quality Management Framework:**<br><br>"13_Rwanda Standard, East African Standard, Potable Water Specification, EAS 12- 2014.pdf" | Edition 1.0, May 2019 | CME |
| 6 | CME | **Preliminary Review Form:**<br><br>-"15_GS12239_GS12240_T-PreReview_V2.0-Preliminary-review-request-form.doc"<br>- "GS12240_GS4GG Design Review_Final_17012025" | - | CME |
| 7 | CME | **Samples of Carbon Waivers:**<br><br>"16_Samples of Carbon Waivers.pdf" | - | CME |
| 8 | CME | MoUs signed with Schools/Districts/Any other authority for the project implementation:<br><br>"17_District MOUs.pdf" | - | CME |
| 9 | CME | Monitoring Report | V0.1, 02/03/2024<br>V1.1, 26/04/2024 | CME |

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| | | | V1.2, 23/07/2024<br>V1.3, 11/09/2024<br>V1.4, 11/09/2024<br>V1.5, 11/12/2024 | |
| 10 | CME | **ER sheet corresponding to the monitoring period:**<br><br>"19_Virridy Rwanda Amazi Meza ER 1st MP VPA1 v1.3 21 Nov 24" | V1.0, 29/03/2024<br>V1.1, 19/04/2024<br>V1.2, 18/07/2024<br>V1.3, 21/11/2024 | CME |
| 11 | CME | **Sample selection of the schools selected to perform the water quality tests:**<br><br>"Amazi Meza Rwanda_Installs_23 Feb 2024 Stratified Random Selection.xls" | 23/02/2024 | CME |
| 12 | CME | **Monitoring survey template questions**:<br><br>"20_Monitoring Survey Questions.pdf" | - | CME |
| 13 | CME | **Monitoring survey results including SDGs monitoring results:**<br><br>"21_Monitoring Survey Results.xls" | - | CME |
| 14 | WHO | **Water quality tests technical specifications:**<br><br>"22_Water Quality Test Technical Specifications.pdf" | - | CME |
| 15 | CME | **Water quality test results:**<br><br>"24_Water Quality Test Results.pdf" | - | CME |
| 16 | Aquagenx | **Water quality test interpretation guidance:**<br><br>"25_Water Quality Test Interpretation Guidance.pdf" | - | CME |
| 17 | CME | **Evidence of the "Number of permanent jobs" created by the project:**<br><br>"26_Evidence of Permanent Jobs.pdf" | - | CME |

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| 18 | CME | **Evidence of the "Hygiene campaigns":**<br><br>"27_Evidence of Hygiene Campaigns.pdf" | - | CME |
| 19 | CME | **Evidence of the training activities to school staff on the use and maintenance of the water purification system:**<br><br>"28_Evidence of Training Activities.pdf" | - | CME |
| 20 | CME | **Record of grievances/comments received:**<br><br>"29_Record of Grievances and Comments Received.pdf" | - | CME |
| 21 | CME | **Samples of Staff contracts:**<br><br>"30_Samples of Staff Contracts.pdf" | - | CME |
| 22 | CME | **Filter installation database:**<br><br>"31_Filter Installation Database.xls" | - | CME |
| 23 | Aquagenx | Product documents and resources | https://www.aquagenx.com/product-documentation/ | CME |
| 24 | CME | Report of annual hygiene campaigns results, v1.0 | - | CME |
| 25 | Ministry of Education, Republic of Rwanda | Head-master data on actual student population, teachers and supporting staff which is communicated to the Government as official source of number of students. | - | CME |
| 26 | CME | **Official Development Assistance (ODA) declaration form:**<br><br>"14_GS12240_ODA-Declaration-Form.pdf" | 30/11/2023 | CME |

## 4.2 List of references

| No | Author | Title | References to the document | Provider |
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| A | GS | GS4GG document requirements:<br>1. Principles and Requirements v1.2<br>2. Programme of Activity Requirements and Procedures, v2.1<br>3. Community Services Activity requirements, v1.2<br>4. GHG Emissions Reduction & Sequestration Product Requirements, v2.2<br>5. Validation and Verification Standard, v1.0<br>6. Stakeholder Consultation and Engagement Requirements, v2.1<br>7. Rule update: Application of suppressed demand, project type and applicable scale threshold (RU 2020 PR-GHG V1.2), 13/08/2020<br>8. Safeguard principles & Requirements, V2.1, 29/06/2023.<br>9. Gender Equality Requirements & Guidelines, v2.0, 16/05/2023.<br>10. Site visit and remote audit requirements and procedures, v2.0, 30/05/2023. | https://globalgoals.goldstandard.org/all-documents/ | Publicly available |
| B | GS | Methodology for emission reductions from safe drinking water supply, v1.0 | https://globalgoals.goldstandard.org/all-documents/ | Publicly available |
| C | GS | Templates:<br>1. Key Project Infrmation & Programme Desig Documenty (PoA-DD), v2.2<br>2. Stakeholder Consultation Report, v2.0<br>3. PoA – Design Consultation Report, v2.0<br>4. SDG Impact Methodological Tool, v1.3<br>5. Official Development Assistance Declaration Form, v2.0<br>6. Key Project Information & VPA Design Document (VPA DD), v2.3<br>7. Monitoring report, v1.1 | | |

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| D | UNFCCC | CDM documents used:<br>1. Standard: Sampling and surveys for CDM project activities and programmes of activities, v9.0<br>2. Guidance: Sampling and surveys for CDM project activities and programmes of activities, v4.0<br>3. CDM Methodological Tool 30 "Calculation of the fraction of non-renewable biomass" version 3.0 | https://cdm.unfccc.int/Reference/index.html | Publicly available |
| E | The Global Goals | The Global Goals | https://www.globalgoals.org/ | Publicly available |
| F | UNICEF | Safely managed drinking water, thematic report on drinking water 2017 | https://washdata.org/sites/default/files/documents/reports/2017-07/JMP-2017-tr-smdw.pdf | Publicly available |
| G | UN | Universal declaration of Human Rights | https://www.un.org/en/about-us/universal-declaration-of-human-rights | Publicly available |
| H | WHO | Guidelines for drinking-water quality, 4th edition, incorporating the 1st addendum | https://www.who.int/publications/i/item/9789241549950 | Publicly available |
| I | LifeStraw | LifeStraw web site | https://eu.lifestraw.com/?regionChanged | Publicly available |
| J | MECS | Policy and market review for modern energy cooking in Rwanda, 07/10/2021. | https://mecs.org.uk/publications/policy-and-market-review-for-modern-energy-cooking-in-rwanda/ | Publicly available |
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| L | GS | Impact Registry web site - AMAZI MEZA RWANDA WATER SUPPLY PROJECT FOR SCHOOLS - POA | https://registry.goldstandard.org/projects/details/4382 | Publicly available |
| M | GS | Impact Registry web site - GS 12239 VPA-1 AMAZI MEZA RWANDA WATER SUPPLY PROJECT FOR SCHOOLS | https://registry.goldstandard.org/projects/details/4383 | Publicly available |
| N | WHO | Boil water | https://iris.who.int/handle/10665/155821 | Publicly available |
| O | UNFCCC | Fraction of Non-Renewable Biomass | https://cdm.unfccc.int/DNA/fNRB/index.html | Publicly available |
| P | IPCC | 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Chapter 1: Introduction. | https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_1_Ch1_Introduction.pdf | Publicly available |
| Q | WHO | Core Questions for monitoring water, sanitation and hygiene at home, schools and health centres | https://washdata.org/monitoring/methods/core-questions | Publicly available |
| R | MINEDUC, Republic of Rwanda | MINEDUC School Calendar | https://www.mineduc.gov.rw/index.php?eID=dumpFile&t=f&f=26973&token=25e04b17718bfdf251599175b5922b44e68478a6 | Publicly available |
| S | Ministry of Gender and Family Promotion, Republic of Rwanda | Revised National Gender Policy, February 2021. | https://www.migeprof.gov.rw/fileadmin/user_upload/Migeprof/Publications/Guidelines/Revised_National_Gender_Policy-2021.pdf | Publicly available |
| T | UNFCCC | Clean Development Mechanims (CDM) project search | https://cdm.unfccc.int/Projects/projsearch.html | Publicly available |
| U | VERRA | Verified Carbon Standard (VCS) project search | https://registry.verra.org/app/search/VCS/All%20Projects | Publicly available |

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| V | CAR | Climate Action Reserve (CAR) project search | https://thereserve2.apx.com/mymodule/mypage.asp?logoff=yes | Publicly available |
| W | GCC | Global Carbon Council (GCC) project search | https://www.globalcarboncouncil.com/global-stakeholders-consultation/ | Publicly available |
| X | FOEN | Federal Office of Environment (FOEN) of the Government of Switzerland | https://www.bafu.admin.ch/bafu/en/home/topics/climate/info-specialists/reduction-measures/compensation/abroad.html | Publicly available |
| Y | Applus | Video on how operate the ERP: mWater | - | CME |
| Z | Several | Evidence of calculation of the fNRB:<br>a) Global Forest Resources Assessment 2000 by the FAO for "Distribution of total forest area by ecological zone" (Table 14) - Rwanda; https://www.fao.org/3/y1997e/y1997e21.htm<br>b) 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories - Table TABLE 4.9 (UPDATED) ABOVE-GROUND NET BIOMASS GROWTH IN NATURAL FORESTS; https://www.ipcc-nggip.iges.or.jp/public/2019rf/pdf/4_Volume4/19R_V4_Ch04_Forest%20Land.pdf<br>c) FAO, FRA2020 Office study Rwanda. Basic data. Table. The above assumptions and estimates gives the following estimated time series; https://www.fao.org/3/ca9878fr/ca9878fr.pdf<br>d) FAO, FRA2020 Office study Rwanda. 3b Forest area within legally constituted protected | - | Publicly available |

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| | | areas and forest area subject to long-term<br>e) AFRICAN ENERGY COMMISSION. Detailed Energy Balances for Rwanda 2021. https://au-afrec.org/data-statistics-energy-balances<br>f) IPCC (2006) "IPCC Guidelines for National Greenhouse Gas Inventories", Volume 2, Energy, Chapter 1, Introduction, Table 1.2, p 1.19<br>g) FAO Forestry Production and Trade, Country: Rwanda, Elements: Production Quantity, Items: All but Woodfuel and Wood charcoal, Years: 2022 (Imputed values); https://www.fao.org/faostat/en/#data/FO<br>h) Wood Density Air-Dry WD ad https://www.fao.org/3/a1106e/a1106e00.htm | | |
| AA | UNFCCC<br><br>VERRA<br><br>GS4GG<br><br>CAR<br><br>GCC | GHG Program project search:<br><br>UNFCCC<br><br>VERRA<br><br>GS4GG<br><br>CAR<br><br>GCC | https://cdm.unfccc.int/Projects/projsearch.html<br><br>https://registry.verra.org/app/search/VCS/All%20Projects<br><br>https://registry.goldstandard.org/projects?q=&page=1<br><br>https://thereserve2.apx.com/mymodule/mypage.asp?logoff=yes<br><br>https://projects.globalcarboncouncil.com/ | Publicly available |
| BB | Ministry of Infrastructure of Rwanda | National Water and Sanitation Policy, October 2023. | https://www.mininfra.gov.rw/index.php?eID=dumpFile&t=f&f=93300&token=b5e6a9432df6bd9c46f607218d70699909842d20 | Publicly available |

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| CC | Rwanda Water Resources Board | Water Law No. 62/2008 | https://www.rwb.rw/fileadmin/user_upload/RWRB/Documents/Water_law_gazetted.pdf | Publicly available |
| DD | Ministry of Infrastructure of Rwanda | National Guidelines for Sustainable Rural Water Supply Services (2019) | https://www.mininfra.gov.rw/fileadmin/user_upload/Mininfra/Documents/Water_and_Sanitation_docs/1_National_Guidelines_for_Sustainable_RWSS.pdf | Publicly available |
| EE | Republic of Rwanda | Rwanda Carbon Market | https://climatechange.gov.rw/index.php?id=16 | Publicly available |
| FF | Government of Switzerland | Federal Office for the Environment FOEN | https://www.bafu.admin.ch/bafu/en/home/topics/climate/info-specialists/reduction-measures/compensation/abroad.html | Publicly available |
| GG | Singapore's Carbon Markets Cooperation | https://www.carbonmarkets-cooperation.gov.sg/our-article-6-cooperation/sgs-article-6-cooperations/mous/ | https://www.carbonmarkets-cooperation.gov.sg/our-article-6-cooperation/singapores-art-6-cooperations/overview/ | Publicly available |
| HH | Government of Japan | Carbon Market Express<br><br>The Joint Crediting Mechanism (JCM)<br><br>IDEM | http://carbon-markets.env.go.jp/eng/jcmgp/paris_agreement.html<br><br>https://gec.jp/jcm/<br><br>https://www.mofa.go.jp/ic/ch/page1we_000105.html | Publicly available |
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| JJ | World Bank | Carbon Initiative for Development (Ci-Dev)<br><br>Country processes and institutional arrangements for Article 6 transactions | https://www.ci-dev.org/programs<br><br>https://documents1.worldbank.org/curated/en/769021617687870613/pdf/Country-Processes-and-Institutional-Arrangements-for-Article-6-Transactions.pdf | Publicly available |
| KK | Ecosystem Marketplace | What to Watch for Voluntary Carbon and Article 6 at COP 28 | https://www.ecosystemmarketplace.com/articles/what-to-watch-for-voluntary-carbon-and-article-6-at-cop-28/ | Publicly available |
| LL | Republic of Rwanda | National Carbon Market Framework | https://www.rema.gov.rw/fileadmin/user_upload/Rwanda_National_Carbon_Market_Framework_updated_1_.pdf | Publicly available |
| MM | Ministry of Environment of Rwanda | Rwanda and Sweden Sign Memorandum of Understanding to Cooperate on the Implementation of Article 6 of the Paris Agreement | https://www.environment.gov.rw/news-detail/rwanda-and-sweden-sign-memorandum-of-understanding-to-cooperate-on-the-implementation-of-article-6-of-the-paris-agreement | Publicly available |
| NN | GS | Beyond National Commitments: Rwanda, atmosfair and Gold Standard Launch First Carbon Credit Aligned with Paris Article 6 | https://www.goldstandard.org/news/beyond-national-commitments-rwanda-first-carbon-credit-aligned-with-paris-article-6 | Publicly available |

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# 5. FINAL VERIFICATION STATEMENT

Applus+ Certification verification approach is based on the understanding of the risks associated with reporting of GHG emission data and the controls in place to mitigate these. Applus+ Certification planned and performed the verification by obtaining evidence and other information and explanations that Applus+ Certification considered necessary to give reasonable assurance that reported GHG emission reductions are fairly stated.

Our verification approach was based on the requirements as defined under the Kyoto Protocol, Marrakesh accord, as well as those defined by the Gold Standard. Our approach is risk-based, drawing on an understanding of the risks associated with reporting GHG emissions data and the controls in place to mitigate these. The verification can confirm that:

- the project is operated as planned and described in the GS 12239 VPA-1 Amazi Meza Rwanda Water Supply Project for Schools and Amazi Meza Rwanda Water Supply Project for Schools;
- the monitoring plan is as per the applied methodology;
- the monitoring in Monitoring Report is as per the VPA-DD, PoA-DD and Gold Standard for the Global Goals requirements;
- the development and maintenance of records and reporting procedures are in accordance with the registered monitoring plan;
- the monitoring system is in place and generates GHG emission reductions data;
- the GHG emission reductions are calculated without material misstatements.

In our opinion the GHG emissions reductions reported for the VPA are fairly stated in the final version of the Monitoring Report[/9/]. Applus+ Certification, based on outcome of verification activities, certifies in writing that, during the monitoring period 26/06/2023 to 31/03/2024 (including both days), the GS 12239 VPA-1 Amazi Meza Rwanda Water Supply Project For Schools achieved the verified amount of 7,665 $tCO_2e$ reductions in anthropogenic emissions by sources of greenhouse gases that would not have occurred in the absence of the VPA.

The verified amount of emission reductions is stated below under the current monitoring.

| | **Emission Reductions (Amount) in this monitoring period** | |
|---|---|---|
| **Year** | **Duration** | **Emission reduction (GS-VERs)** |
| 2023 | 26/06/2023 to 31/12/2023 | 2,284 $tCO_2e$ |
| 2024 | 01/01/2024 to 31/03/2024 | 5,381 $tCO_2e$ |
| **Total** | **Nil** | 7,665 $tCO_2e$ |

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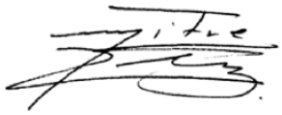
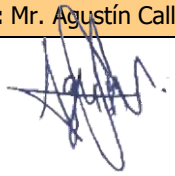
**Date:** 17/01/2025

**Lead Auditor:** Mr. Raul Gonzalez Mitre, PhD
**Local Support:** Mr. Munguakonkwa Taka Hubert
**Tech. Reviewer:** Mr. N. Premjit Singh, PhD

**Approver** (Applus+ Certification VVB Technical Manager)
Mr. Agustín Calle de Miguel

| **ASSESSMENT TEAM** | |
|---|---|
| **Lead Auditor:** Mr. Raul Gonzalez Mitre, PhD | **Technical Reviewer:** Mr. N. Premjit Singh, PhD |
| Signature:  | Signature:  |
| **Approver:** Mr. Agustín Calle de Miguel | |
| Signature:  | |

## Appendix 1: Corrective Action Request/Clarification Request/Forward Action Request resolution table

**Table 1. Remaining FAR from GS Design Review (VPA Level)**

| **FAR ID** | 01 | **Section no.** | | **Date:** 17/01/2025 |
|---|---|---|---|---|
| **Description of FAR** | | | | |
| VVB shall check and confirm on double counting of project technology/equipment and projects schools. | | | | |
| **Project participant response** | | | | **Date:** |
| N/A | | | | |
| **Documentation provided by project participant** | | | | |
| N/A | | | | |
| **VVB assessment** | | | | **Date:** 17/01/2025 |

This has been evaluated already in section 1.3 of this report.

The VPA is not registered under any other emissions trading program or any other mechanism that includes GHG allowance trading. The VT has checked the most recognized web sites/AA/ of voluntary GHG programs and can confirm that there is no other similar project with the same technology/equipment, installed in the same schools than the VPA. Hence, no double counting of credits is anticipated in the current monitoring period. Furthermore, the risk of double counting with national climate policies for the project is considered low. The VT has not found any information in the media or internet which provides evidence of double counting with national emissions trading programs. Rwanda has developed a national carbon market framework but does not have right now a carbon tax or Emission Trading System in place/EE/ nor an official and operative carbon registry. The National Carbon Market Framework/LL/ has been checked.

Furthermore, it has been checked also for Article 6.2 agreements or Memorandum of Understanding in place with governments like Switzerland/FF/, Singapore/GG/, Japan/HH/, Kuwait/II/ Germany/OO/ and Sweden/MM/. Even that there are MoUs in place for Singapore, Kuwait, Germany and Sweden, there is no information of ongoing projects with the same technology, region or stakeholders than the project activity.

Moreover, according to the Gold Standard web site/NN/, the issuance of a Letter of Authorization by the Government of Rwanda marks the first time that credits issued to an independent standard have been publicly recognized to have an Article 6 authorization. The project achieves emission reductions in Rwanda by replacing traditional stoves with highly efficient biomass-fired cookstoves. The corresponding party is Germany. This project is not similar to the VPA.

Furthermore, other mechanisms like the Carbon Initiative for Development (Ci-Dev) from the World Bank have been also checked/JJ/. There are three projects listed under Ci-Dev in Rwanda but all of them are related to clean and improved cooking.

Finally, the PD has declared in the MR cannot/will not claim nor account emission reductions (ERs) for the same vintage in another standard other than GS nor any other carbon market mechanism (regulated or voluntary).

Hence, it can be concluded that no double counting of carbon credits or any other emissions trading program allowances are identified for the PoA and VPA in the host country.

**FAR is closed.**

| **FAR ID** | 02 | **Section no.** | | **Date:** 17/01/2025 |
|---|---|---|---|---|
| **Description of FAR** | | | | |
| VVB shall check and confirm the number and frequency of the annual water hygiene education campaigns for end-users. | | | | |
| **Project participant response** | | | | **Date:** |
| N/A | | | | |
| **Documentation provided by project participant** | | | | |
| N/A | | | | |
| **DOE assessment** | | | | **Date:** 17/01/2025 |

This has been evaluated already in section 3.5 of this report. Actually, it is a parameter to be monitored. Please refer to SDWS 20.

According to the applied methodology, hygiene campaigns shall be carried out annually among project safe water end-users. Evidence of the "Hygiene campaigns" have been provided. Furthermore, the "Report of annual hygiene campaigns results" required by the applied methodology has been also provided.

The hygiene campaigns are taken place at least annually as per required by the applied methodology. This means one (1) campaign per year. Further activities are done by the school on a regular basis (more than on a yearly basis) in the daily/weekly assemblies with the children.

Teachers also stress importance of drinking safe water and to take care of the water filters. Also, during parents' meetings, information on hygiene and safe water to drink is also communicate. Some schools organized «The Water Club» which invites students to participate in the daily cleaning routine of the filters in the classroom and remind classmates about the importance of drinking safe water and hygiene habits. All these information has been checked during on site visit. No errors, omissions, misstatements, or incomplete information have been identified.

All requirement required by the applied methodology to be met have been fulfilled. No discrepancies were identified. Furthermore, the frequency of the hygiene campaigns has been done as per the requirements of the applied methodology. No discrepancies were identified.

**FAR is closed.**

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**Table 2. CL from this verification**

No CL has been raised during the validation.

**Table 3. CAR from this verification**

| **CAR ID** | 01 | **Section no.** | 3 of the FVR | **Date:** 19/04/2024 |
|---|---|---|---|---|
| **Description of CAR** | | | | |
| The following shall be corrected in **section B** of the MR:<br><br>1. Eliminate the "Draft" water mark from the whole document.<br><br>2. **Section B.1:** No employees have been described. It has been stated XX instead. | | | | |
| **Project participant response** | | | | **Date:** 01/05/2024 |
| 1. The watermark has been removed.<br>2. The number of employees (11) has been described correctly. | | | | |
| **Documentation provided by project participant** | | | | |
| 18_Monitoring-Report Amazi Meza Rwanda Water Supply Project for Schools VPA1 v02 26 Apr 2024.docx | | | | |
| **DOE assessment** | | | | **Date:** 03/05/2024 |
| 1. "Draft" water mark eliminated. No further discrepancies were identified.<br><br>2. **Section B.1:** Number of employees have been now defined. The contracts/21/ were checked. Interviews were also performed on site for cross check purposes. No discrepancies were identified.<br><br>**CAR is closed.** | | | | |

| **CAR ID** | 02 | **Section no.** | 3 of the FVR | **Date:** 19/04/2024 |
|---|---|---|---|---|

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| **Description of CAR** |
|---|

The following shall be corrected in **section D** of the MR:

1. **Section D.1**: Please include parameter number as per methodology to facilitate identification (e.g. SDWS 2) and differentiate parameters related to water quality and parameters related to emission reductions;

2. **Section D.2**:

   a) Please include parameter number as per methodology to facilitate identification (e.g. SDWS 2) and differentiate parameters related to water quality and parameters related to emission reductions;

   b) In several cases, information of parameters has been copied-pasted from the applied methodology (e.g. "Annual sampling, and the first round of testing shall be conducted at least after six months from the start date) but it has not been described the actual situation of the monitored parameter. This means, the annual sampling has been or has not been done at least after six months from the start date? Correction is necessary.

   c) **Parameter (SDWS 18)** $M_{q,y}$**:** second condition to be met by the field testing kits have not been described as fulfilled. Please provide more information here and to demonstrate that "testing kits shall be tested for its accuracy and robustness prior to application for project level monitoring, whereby local or accredited laboratory shall conduct water quality tests using testing kits and a relevant ISO standard or an equivalent standard, in parallel with field testing kits".

   d) **Parameter (SDWS 20) Water hygiene education campaigns:** the "Report of annual hygiene campaigns results" required by the applied methodology shall be provided for evaluation.

   e) **Parameter (SDWS 24)** $QPW_p$**: Volume of drinking water per person per day for premises type p:** Option 1 has been selected (default values). This means for boarding schools 4 L/person/day shall be used but instead 5.5 L/person/day have been included. Correction is necessary. What about Half-time premises (3 L/person/day)?. Check also section D.3.

   f) **Parameter (SDWS 25)** $HN_{p,y}$**: Number of individuals per premises type p in the project boundary in year y:**

      i. Two values have been given: 862.21 and 133,156. Please check.

      ii. For QA/QC procedures, the following has been written: "The value shall be cross checked with the project survey results". Nevertheless, the applied methodology requires "the value applied shall be cross-checked against at least one other source on the list". It has been confirmed during on site visit that "official government publications or statistics" are available. Please check. Cross check source shall be mentioned and also provided to evaluate fulfillment.

   g) **SDG 7**: The word SDG is missing.

| **Project participant response** | **Date:** 01/05/2024 |
|---|---|

1. The parameter number as per methodology have been included, as well, the order as per water quality and emission reductions.

2.
   a) The parameter number as per methodology have been included, as well, the order as per water quality and emission reductions.
   b) The description for all the parameters has been updated to explain the actual situation as happened during the monitoring period.
   c) Further information has been added for Mq,y parameter to justify how the field-testing kit fulfills the criteria, including reference to water quality test technical specification from the kits' supplier.
   d) The Report of annual hygiene campaigns results is submitted along with the revised monitoring report.
   e) The volume of drinking water for boarding schools has been updated to 4L/perso/day.
   f) Sdf
      i. The value '862.21' correspond to the average person per school, and the value ' '133,156' corresponds to the total person covered by the VPA.
      ii. An explanation regarding the source of the number of person has been included in the MR to explain the number of students, teachers and supporting staff is provide by the headmaster for each schools. The students' census is the same the schools report to MINEDUC, thus, it is considered official information. Furthermore, the average and the total number of person is based on the 100% (154) schools included in the VPA.
   g) The details of the SDG7 have been updated.

| **Documentation provided by project participant** |
|---|
| 22_Water Quality Test Technical Specifications<br>Water Hygiene Educuation Campaing Report v1.0<br>Evidence of the VPA start date (Muhanga.ITEL Rutobwe Installation.pdf, Muhanga.ITEL Rutobwe MOU.jpeg)<br>18_Monitoring-Report Amazi Meza Rwanda Water Supply Project for Schools VPA1 v02 26 Apr 2024.docx<br>19_Virridy Rwanda Amazi Meza ER 1st MP VPA1 v1.1 19 Apr 24.xlsx<br>17_District Agreements<br>26_Evidence of Permanent Jobs<br>29_Record of Grievances and Comments Received<br>30_Samples of Staff Contracts |

| **DOE assessment** | **Date:** 03/05/2024 |
|---|---|

1. **Section D.1**: Parameter number as per methodology has been included, differentiating between parameters related to water quality and parameters related to emission reductions. No further discrepancies were identified.

2. **Section D.2**:

   a) Parameter number as per methodology has been included, differentiating between parameters related to water quality and parameters related to emission reductions. No further discrepancies were identified.

   b) Information in parameters have been updated to reflect the actual situation of the VPA. No further errors, omissions, misstatements, or incomplete information have been identified.

   c) **Parameter (SDWS 18) $M_{q,y}$:** more detailed information has been included. Mainly related to the requirement from the applied methodology regarding testing kits shall be tested for its accuracy and robustness prior to application for project level monitoring, whereby local or accredited laboratory shall conduct water quality tests using testing kits and a relevant ISO standard or an equivalent standard, in parallel with field testing kits. This has been checked during on site visit. Aquagenx testing kits results were tested by an independent laboratory assessment. The evaluation was carried out at KWR Research Laboratory with support from the WHO/UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene (JMP) following a protocol established by WHO. The Aquagenx kit successfully passed the test. The report is dated Ocober 2022, which is prior to field application of the VPA.

   d) **Parameter (SDWS 20) Water hygiene education campaigns:** the report of annual hygiene campaigns[24] have been provided. Detailed information on the hygiene campaigns is being reported. This has been cross checked during on site visit with visual inspection of the schools and interviews to teachers and staff members. No errors, omissions, misstatements, or incomplete information have been identified.

   e) **Parameter (SDWS 24) $QPW_p$: Volume of drinking water per person per day for premises type p:** volume of drinking water has been updated to 4L/person/day as required by option 1. No further discrepancies were identified. This has been also correctly applied in the ER calculation spread sheet.

   f) **Parameter (SDWS 25) $HN_{p,y}$: Number of individuals per premises type p in the project boundary in year y:**

      i. Only the value of 133,156 corresponding to the total person covered by the VPA has been now included. No further discrepancies were identified.
      ii. Clarification has been provided. The value provided comes from the head-master based on the actual student population, teachers and supporting staff. This is the information officially communicated to the government which has as valid and official source. No errors, omissions, misstatements, or incomplete information have been identified.

   g) **SDG 7**: SDWS has been included with information from SDGs monitoring parameters. No further discrepancies were identified.

**CAR is closed.**

| **CAR ID** | 03 | **Section no.** | 3 of the FVR | **Date:** 19/04/2024 |
|---|---|---|---|---|
| **Description of CAR** | | | | |
| The following shall be corrected in ER calculation spread sheet:<br>1. Please check cookstove efficiency as it differs from the same type of device (0.1 Vs 0.2).<br>2. Usage time (SDWS 30) has been assigned the default value (5 hrs) but during on site assessment it was discussed/observed that school time is 8 hours. Please check<br>3. The whole calculation spread sheet shall be updated considering the issues raised above | | | | |
| **Project participant response** | | | | **Date:** 01/05/2024 |
| Corrected as requested | | | | |
| **Documentation provided by project participant** | | | | |
| 19_Virridy Rwanda Amazi Meza ER 1st MP VPA1 v1.1 19 Apr 24 | | | | |
| **DOE assessment** | | | | **Date:** 03/05/2024 |
| 1. Cookstove efficiency has been now corrected and now it is consistent between all efficiencies. This was also confirmed during on site assessment. No further discrepancies were identified.<br>2. Correction has been done for usage time (SDWS 30) as per actual situation observed. No further discrepancies were identified.<br>3. Calculation spread sheet has been correctly updated. No errors, miscalculations, omissions, misstatements, or incomplete information have been identified<br>**CAR is closed.** | | | | |

**Table 4. FAR from this verification**

No FAR has been raised during the validation.

| ~~**FAR ID**~~ | | ~~**Section no.**~~ | | ~~**Date:**~~ |
|---|---|---|---|---|
| ~~**Description of FAR**~~ | | | | |
| | | | | |
| ~~**Project participant response**~~ | | | | ~~**Date:**~~ |
| | | | | |
| ~~**Documentation provided by project participant**~~ | | | | |
| | | | | |
| ~~**DOE assessment**~~ | | | | ~~**Date:**~~ |
| | | | | |

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## Appendix 2: Audit Team CVs

| Name | SHORT CV. BACKGROUND INFORMATION |
|---|---|
| Mr. Raul G. Mitre, PhD | Mr. Raul G. Mitre is a professional with more than 17 years of experience in climate change and sustainability, specialized in Monitoring, Reporting and Verification (MRV) evaluating more than 300 projects in more than 20 countries all over the globe.<br>Raul has a degree in Industrial Administration, specializing in productivity and quality from the National Polytechnic Institute of Mexico. He holds a Master's degree in Quality Management from the University La Salle of México City, a Master's degree in Project Management from the University Ramon Llull of Barcelona, a postgraduate degree in Integrated Management Systems from the University of Wismar in Germany, an MBA from the University La Salle of Andorra and a PhD in Sustainability - Climate Change with the Pan American Center for Higher Education in Mexico.<br>He is also an international auditor of ISO 9001 (quality), ISO 14001 (environment), ISO 45001 (occupational safety), ISO 37001 (anti-bribery), ISO 50001 (energy efficiency), ISO 14064-1 (GHG quantification & reporting for organizations) ISCC (International Sustainability Carbon Standard and RSB (Roundtable of Sustainable Biomaterials).<br>Currently he is associated with NOVA CERT, LLC (Applus+ Certification's Outsourced Entity).<br>Mr. Raul G. Mitre is based in Germany. |
| Mr. Munguakonkwa Taka Hubert | Mr Taka is a professional with more than 7 years of experience in East Africa, his work as a project manager and site engineer has increased his experience working in collaboration with the local communities. He has been in Rwanda for the past 4 years and obtained there a master's in Renewable energy at the University of Rwanda in 2021 after getting a bachelor's in Electrical power systems in DR Congo. He is currently finishing a master's in Business and Administration at Mount Kigali University with specialisation in strategic management. In 2022 he joined one of the biggest design studios in the world named MASS Design where he worked on-site in Musanze District, Kinigi sector at The Ellen DeGeneres Campus of the Dian Fossey fund for a year before being deployed in Bugesera, District Gashora sector at The Rwanda Institute for Conservation Agriculture: RICA. Mr. TAKA is fluent in Kinyarwanda, Swahili, English, and French giving him the possibility to work in most countries in Africa and beyond. He is currently an energy consultant with a focus on access to finance, clean cooking, and credit carbon. He is also a researcher and an advocate for SDG7. |
| Mr. N. Premjit Singh, PhD | Dr. N Premjit Singh has a PhD in Mechanical Engineering (Thesis: Design and development of a square parabolic dish system with a concentrated photovoltaic (CPV) module for performance improvement) from the Indian Institute of Technology (IIT) Madras, Chennai, India, awarded in 2021. M.Tech in Energy Technology, Tezpur University, Napaam, India (2007), and B.Tech in Mechanical Engineering (2005), NERIST, Nirjuli, India. He has extensive experience of about 7 years with DOEs, including UNFCCC CDM |

| | |
|---|---|
| | and other carbon related schemes (e.g., VCS, GS, GCC), and 5 years + in research projects, renewable energy, and energy audits. In Applus+ since March 2023, he has been the Product Assurance Manager for CDM/VCS/GS4GG/GCC Department to ensure the quality of the performance of different assessments, coordinate the global team for technical reviews, and identify the training needs for the auditors and technical reviewers to improve the quality of reports.<br>He holds experience as a Lead Auditor, Validator and Verifier for GHG mitigation projects and programmes of activities in Sectoral Scope 1.2 (Renewables) and 3.1. (Energy Demand) and is qualified as per Applus+ procedures as Lead Auditor, Validator, Verifier, Technical Expert for SS/TA 1.2. and Technical Reviewer.<br>Dr. N Premjit Singh is based in Gurugram, India.<br>Dr. N Premjit Singh may participate as part of the Audit Team as Lead Auditor and Technical Expert. |