VERIFICATION & CERTIFICATION REPORT

Aqua Clara International

AQUA CLARA WATER FILTRATION PROGRAM IN KENYA

(GS Ref. No. 1078)

Sixth Monitoring Period

19/02/2019 – 18/02/2020 (Including both the days)

REPORT NO.

GS.20.VER.007 MP06

*Date of this issue:*03/02/2021	KBS Ref. No.: GS.20.VER.007.MP06
Project Title:	Aqua Clara Water Filtration Program in Kenya
Organization:	KBS Certification Services Pvt. Ltd.
Client:	ClimateCare Limited
Monitoring Period:	19/02/2019 – 18/02/2020 (including both dates)

Summary:

KBS Certification Services Pvt. Ltd. has performed the 6th periodic verification of the GS4GG project Aqua Clara Water Filtration Program in Kenya and Gold Standard Ref. Number 1078. The verification includes confirming the implementation of the monitoring plan of the registered PDD and the application of the monitoring methodology as per "Technologies and Practices to Displace Decentralized Thermal Energy Consumption", version 01. A remote audit was conducted to check the implementation of registered monitoring plan and verify the data submitted in the monitoring report. KBS confirms the following has been reviewed;

(a) The registered PDD, GS passport and the monitoring plan, and the corresponding validation opinion;
(b) The validation report;
(c) Previous verification reports, if any;
(d) PRC validation Opinion;
(e) Transitions annex (approved by GS)
(f) The applied monitoring methodology(ies);
(g) The monitoring report to verify that it is as per the standardized format;
(h) Any other information and references relevant to the project activity's emission reductions (e.g. IPCC reports, laboratory analysis and national regulations);
(i) ER calculations sheets and all supporting documents;

KBS Certification Services Pvt. Ltd. confirms that the monitoring system is in place, claimed SDG contributions and the emission reductions are calculated without material misstatements.

Based on the information seen and evaluated we confirm that the implementation of the project has resulted in 16,191 tCO_2e emission reductions during period 19/02/2019 – 18/02/2020 (Including both the days).

Subject Group:	*Sectoral Scope(s):*	*Methodology:*
GS4GGVerification	1, 03, 13	Technologies and Practices to Displace Decentralized Thermal Energy Consumption, version 01

Verification Team:		***Monitoring report:***	
Team Leader, Technical Expert (1.1, 3.1 & 13.1), Local Expert	Tushar Chaudhari	First version	16/09/2020
		Final version	25/02/2021

Independent Technical Reviewer Team		***Verification status:***
Date: 25/02/2021		
Technical Reviewer	Sanjay Kandari	☐ Findings not closed.
Technical Expert (1.1, 3.1, 13.1)	Sanjay Kandari	☐ Draft verification opinion
Manager T&C	Sanjay Kandari	☒ Final verification opinion
Date	26/02/2021	
Authorized Signatory:		
Date: 26/02/2021		
Managing Director	Kaushal Goyal	☒ No distribution without permission from client
Revision history:		
Date	*Rev. No.*	☐ Unrestricted distribution

		☐ Limited distribution
15/12/2020	1.0	
03/02/2021	2.0	
26/02/2021	3.0	

Abbreviations

ACI	Aqua Clara International
BE	Baseline Emissions
BSF	Bio Sand Filter
CAR	Corrective Action Request
CAWST	Centre for Affordable Water and Sanitation Technology
CDO	Community Development Officer
CDM	Clean Development Mechanism
CDM EB	CDM Executive Board
CL	Clarification Request
CO2e	Carbon dioxide equivalent
DNA	Designated National Authority
EF	Emission Factor
ERs	Emission Reductions
FAR	Forward Action Request
GHGs	Greenhouse Gas(es)
GIS	Geographic Information System
GS	Gold Standard
GS4GG	Gold Standard for Global Goals
GS-VER	Gold Standard Voluntary Emission Reduction
GWP	Global Warming Potential
HHFF	Household Hollow Fibre Filter
IHFF	Institutional Hollow Fibre Filter
ISO	International Organization of Standardization
IPCC	Intergovernmental Panel on Climate Change
KP	Kyoto Protocol
KPT	Kitchen Performance Test
LE	Leakage Emissions
MR	Monitoring Report
MP	Monitoring Plan
NCV	Net Calorific Value
NRB	Non-Renewable Biomass
PE	Project Emissions
PDD	Project Design Document
PFT	Project Field Test
QA/QC	Quality Assurance/Quality Control
SAM	Sand and Membrane Filter
SD	Sustainable Development
SDG	Sustainable Development Goals
VVB	Validation and Verification Body
VVS	Validation & Verification Standard
WCFT	Water Consumption Field Test
WHO	World Health Organization

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1. INTRODUCTION

1.1 Objective

KBS Certification Services Pvt. Ltd. has been commissioned by "ClimateCare Limited" to perform an independent verification of its registered GS project "Aqua Clara Water Filtration Program in Kenya", GS: 1078 for the reported GHG emission reductions for the given monitoring period 19/02/2019 – 18/02/2020 (both dates included). The Gold Standard projects must undergo independent third party verification and certification of emission reductions as the basis for issuance of Gold Standard Voluntary Emission Reductions (GS VERs).

The objectives of this verification exercise are, by review of objective evidence, to establish that:

- The project activity has been implemented and operated as per the registered PDD and that all physical features (technology, project equipment, and monitoring and metering equipment) of the project are in place;
- Monitoring report and other supporting documents are complete;
- The actual monitoring systems & procedures and monitoring report conforms with the requirements of the approved monitoring plan and the approved monitoring methodology;
- The data is recorded and stored as per the monitoring methodology and approved monitoring plan.
- The project documents meet the requirements of the GS4GG.

1.2 Scope

The scope of the verification is the independent and objective review and ex post determination of the monitored reductions in GHG emission by the project activity. The verification is based on review of monitoring report, supporting information and

(a) The registered PDD, including the monitoring plan, GS passport, Transition Annex and the corresponding validation opinion(s);
(b) Previous verification reports, deviation requests, requests for revision of monitoring plan;
(c) Monitoring report for the monitoring period under verification including GS VER calculations sheets and all supporting documents;
(d) The applied monitoring methodology;
(e) Relevant decisions, clarifications and guidance from the CMP and the Gold Standard Board and the requirements of the GS4GG.
(f) All information and references relevant to the project activity's resulting in emission reductions

The project is assessed against the requirements of the Kyoto Protocol, the CDM Modalities and Procedures and related rules and guidance.

KBS has, based on the recommendations in the latest version of Gold Standard for Global Goals (GS4GG) and CDM Validation and Verification Standard, employed a rule-based approach in the verification, focusing on the identification of significant reporting risks and the reliability of project monitoring.

1.3 Description of the Project Activity

Title of project activity:	Aqua Clara Water Filtration Program in Kenya

Gold Standard Id:	GS 1078
Applied methodology:	Technologies and Practices to Displace Decentralized Thermal Energy Consumption, version 01
Start date of crediting period:	28/12/2011
Project Participants:	Aqua Clara International
Location of the project activity:	Kenya, The project activity is spread across 23 Counties.

The project activity aims at GHG reduction through implementation of the ACF Bio Sand Filter (BSF), Household Hollow Fibre filter and the Sand and Membrane (SAM) large-scale filter. These ACF water purifiers displace the use of firewood fuel traditionally used to boil water for domestic consumption and in the alternative offer an affordable, long-term solution for households that typically consume raw water from turbid sources. The project activity seeks to introduce approximately 7,424 BSF purifiers, 1,842 household Hollow Fibre Filters with a capacity of up to 15-100 litres per day and 425 Institutional/Commercial-use HFF units with a production capacity of 100 – 400 litres of water per day throughout the 10-year crediting period in rural and peri-urban Kenya.

The project technologies offer an affordable, clean, efficient and easy-to-use alternative for water purification within the rural area that the project activity seeks to operate in. In addition the project activity will actively reduce CO_2 emissions and diminish the associated risks of Indoor Air pollution.

As of 18/02/2020, the PP has installed a total of 3,215 Bio-Sand Filters, 2,070 Domestic HHFF, 164 Institutional/ Commercial-use HFF units used for domestic and institutional use in the project boundary.

The emission reductions achieved during the current monitoring period starting from 19/02/2019 – 18/02/2020 (including both days) is 16,191 tCO_2e.

2. METHODOLOGY

KBS follows a rule based verification approach, wherein, as a first step, the contract review is undertaken as per latest version of CDM Accreditation Standard. Subsequently, after the contract is signed, the monitoring report of the project activity is made available at Gold Standard registry as per CDM procedures in accordance with Gold Standard rules. Since the Gold Standard prescribes the application of CDM rules and guidelines which are followed along with the Gold Standard rules for GS4GG.

A desk review of the project documentation is undertaken, which is followed by an onsite visit by the members of verification team in accordance with the latest version of CDM AS. The verification protocol is filled by the verification team that is based on standard auditing practices and latest version of CDM VVS, to capture the assessment of applicable CDM requirements viz., latest version of CDM Project Standard, registered PDD, applied methodology/ies and/or tools and recent decisions. The verification protocol provides transparent means to record the observations and compliances by the verification team members and the nonconformities, if any. The verification protocol is an internal document, and is available on request. Following are the major milestones for the verification under consideration.

Duration of verification

Verification Contract	04/09/2020
Offsite remote audit assessment	08/10/2020 & 19/10/2020
Draft Verification Report	24/09/2020
Final Verification Report	25/02/2021

2.1 Review of Documentation

A desk review is undertaken, involving but not limited to,

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

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

2.2 Site Visits

KBS have not conducted the physical on site visit for project activity during this verification in line with paragraph 339 of VVS PA, version 02.

I) This is not the first verification for KBS with regards to this project activity.

II) KBS has already performed site visit during 4th monitoring period verification in November 2018 i.e. the current verification is within three years of period from last on-site inspection conducted for verification for the project activity.

III) This is 6th monitoring period verification of the project activity. The project has not achieved more than 300,000 t CO_2 e since last verification when an onsite visit/inspection was conducted.

In addition to above as per GS deviation approval dated 25/06/2020 and GS interim measures as a result of the COVID-19 pandemic, furthermore, taking into account the CDM Executive Board announcement to relax mandatory site visits till 31 December 2020, rules of relevant national and local authorities (local to the VVB offices as well as to locality of the site visits), World Health Organization (WHO) recommendations, policies of the VVB and other relevant travel restrictions and guidance (for example, a requirement to self-isolate upon return from specific countries), a VVB may postpone site visits for onsite inspections required by the "CDM validation and verification standard for project for activities" (version 02.0) (VVS-PA).

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

An off-site remote audit assessment is undertaken by members of verification team, involving but not limited to,

- An assessment of the implementation and operation of the proposed GS project activity as per the registered PDD;
- A review of information flows for generating, aggregating and reporting the monitoring parameters;
- Interviews with relevant personnel to confirm that the operational and data collection procedures are implemented in accordance with the approved monitoring plan;
- A cross-check between information provided in the monitoring report and data from other sources such as plant log books, inventories, purchase records or similar data sources;
- Verification team has performed Skype/Whatsapp/telephonic interview (as per network coverage and gadget availability and end user's comfort) with randomly selected 24 sampled end users to check the implementation of the monitoring plan.
- Verification team has performed Skype interview with Aqua Clara International (PP) in order to check implementation, current situation, management system of the project activity, project technology, location, start date etc.
- A check of the monitoring equipment, including calibration performance and observations of monitoring practices against the requirements of the PDD and the selected methodology;
- 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.

The off-site remote audit assessment through desk review and skype interview for this verification was undertaken by Tushar Chaudhari (Team Leader, Technical Expert) and details are mentioned below;

Dates	08/10/2020 & 19/10/2020	
Key points discussed	Name of person interviewed	Designation, Organization
Operational data Data collection QA/QC procedures Monitoring Survey and GS Indicators*	Josephine Orare	MEE Officer, Aqua Clara Kenya
Calculation of ERs	Lilian Kagume	Project Manager, ClimateCare
GSrequirements	Lilian Kagume	Project Manager, ClimateCare
Monitoring Surveys: The end users were interviewed on their name, household/organization size, location, monitoring surveys conducted by PP, water consumption, serial number, date of installation, filter model, usages of filters, pre-project scenario, condition of filter, replacement or maintenance in past, sustainable development indicators, their awareness of the GS program, similar activity in the region, operational status of the filter, water quality tests and other points based on the actual and local conditions at the project site and based on the VVB judgement.	Household End Users (mentioned in the Annex 1 of the report) * Skype/Whatsapp/telephonic interview (as per network coverage and gadget availability and end user's comfort)	Kenya

The summary of end user interview observations has been incorporated in the Annex -1 of this report.

2.3 Reporting of Findings

During the course of verification the findings may be raised as under;

CAR is raised if one of the following occurs:

- 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;
- Modifications to the implementation, operation and monitoring of the registered project activity has not been sufficiently documented by the project participants;
- Mistakes have been made in applying assumptions, data or calculations of emission reductions that will impact the quantity of emission reductions;
- Issues identified in a FAR during validation to be verified during verification(s) have not been resolved by the project participants.

*List is indicative, many other households were interviewed during the remote audit.

Clarification request (CL) is raised if information is insufficient or not clear enough to determine whether the applicable CDM/GS4GG requirements have been met.

FAR is raised during verification if the monitoring and reporting require attention and/or adjustment for the next verification period.

The verification report contains (section 7) all CARs, CLs and FARs raised during this verification in transparent manner and provides clear information of the issues raised, response received and its resolutions, including the changes in the documents.

2.4 Verification Assessment

Based on the desk review and remote audit the team leader follows the verification protocol to identify and record the findings in the context of the project activity. The findings are communicated to the client in the findings document (section 7 of report). The project documentation, including responses to the findings is reviewed by the team leader in consultation with team members, wherever appropriate. The team leader prepares the draft verification report subject to closure or non-closure of the findings.

2.5 Internal Quality Control

The draft verification report prepared by team leader is reviewed by an independent technical reviewer (having competence of relevant technical area himself/herself or through an independent technical area expert) to confirm the internal procedures established by KBS are duly followed and the verification report/opinion is reached in an objective manner and complies with the applicable GS/CDM requirements.

The independent technical reviewer may approve or reject the draft verification report. The findings may be identified even at this stage, which needs to be satisfactorily resolved, before the request for issuance is submitted to Gold Standard. The final decision is taken by the Manager Technical and Certification. The technical reviewer and Manager T&C can be same person.

The final decision is authorized by Managing Director, KBS once the report is approved by the Manager T&C.

3. VERIFICATION FINDINGS

3.1 Remaining Issues (FARs from Previous Validation or Verification)

Discussion:

Two FARs were raised during the 5th periodic verification by GS during the issuance review and three FARs raised by GS during performance assessment for 5th periodic verification. The same FARs were communicated to PP as FAR#01to FAR#05 during this current verification. The response provided by PP were assessed adequate by the verification team and therefore closed the FARs.

Findings:

FAR#01,FAR#02,FAR#03,FAR#04 and FAR#05were raised during this 6th periodic verification based on the GS review document in previous 5th verification. This is discussed in detail in section 7 of this report.

Opinion:

The project activity is in compliance with the revised PDD.

3.2 Compliance of project implementation with registered PDD

Discussion:

The project activity consists of implementation of water filters in the households across 23 counties across the host country Kenya.To date the PP has installed a total of 3,215Bio Sand, 2,070Domestic HHFF, 164 Institutional/Commercial-use HFF units used for domestic and institutional use in the project boundary. There are no operational large scale SAM filters during this monitoring period. The same has been checked from the project sales record /7.2/ and also during remote audit.

Annual BSF Filter sales since start date of the project:

- 03/09/2009†-02/09/2010: 199 filters
- 03/09/2010-02/09/2011: 538 filters
- 03/09/2011-02/09/2012: 918 filters
- 03/09/2012-02/09/2013: 629 filters
- 03/09/2013-02/09/2014: 454 filters
- 03/09/2014-02/09/2015: 187 filters
- 03/09/2015-02/09/2016: 149 filters
- 03/09/2016-02/09/2017: 86 filters
- 03/09/2017-02/09/2018: 40 filters
- 03/09/2018-18/02/2020: 15 filters

Total: 3,215 filters

Annual HHFF sales since start date of the project:

- 01/11/2013-31/10/2014: 95 filters
- 01/11/2014-31/10/2015: 194 filters
- 01/11/2015-31/10/2016: 366 filters

†The first BSF filter was sold on 26/06/2009. However, following the TSR clean-up exercise that was done, some of the filters that were no longer functional have been removed from the sales record. The vintage years have therefore been revised to reflect this change.

- 01/11/2016-31/10/2017: 287 filters
- 01/11/2017-31/10/2018: 509 filters
- 01/11/2018-31/10/2019:555 filters
- 01/11/2019-18/02/2020: 64 filters

Total:2,070

Annual IHFF sales since start date of the project:

- 19/06/2014-18/06/2015: 19 filters
- 19/06/2015-18/06/2016: 5 filters
- 19/06/2016-18/06/2017: 16 filters
- 19/06/2017-18/06/2018: 22 filters
- 19/06/2018-18/06/2019: 69 filters
- 19/06/2019-18/02/2020: 33 filters

Total: 164

The current verification includes monitoring period starting from 19/02/2019– 18/02/2020 (Including both the days). The project started commercial operation in July 2009. The company has its distribution network that involves the use of Community Development Officers (CDOs) and Community Health Promoters (CHPs) who work within the various communities under which Aqua Clara serves. At the time of installations of BSF/HHFF filters, households are issued with receipts and each filter is assigned a unique identification number to avoid double counting. The same has been evidenced from TSR and sample frame excel sheet review /7.2/ and end users interview during the remote audit.

Sampling Plan:

As per approved GS deviation /18/, for Qp_y,; $Qp_{,cleanboil,y}$;$Qp_{,rawboil,y}$ and Volume of safe water consumed in the project scenario for these parameters monitoring WCFT was not undertaken during this monitoring period and hence no sampling was done for these parameter.

As per the sampling approach defined in the revised PDD, Simple Random Sampling method was used to determine the random test subjects from the total sales record.

a) The monitoring surveys cover the duration from 19th February 2019to 18th February 2020.
b) PP have conducted the telephonic usage survey was carried out from 15thJuly 2020to 24thAugust 2020 in line with GS approved deviation dated 25/06/2020.
c) A total of 388households for the Bio Sand Filters, 311households for the household HHFF and 135 for Institutional HFF were initially selected for this monitoring period. The PP has ensured that at least 40samples for BSF and HHFF were selected for each age (vintage wise) being interviewed.

Project participant again tried to contact replaced households and a conclusion was taken whether the replaced household are user or non-user and considered accordingly in the usage survey calculation. The final frame for usage rate was considering the original households and the new households selected for the compensation against the replaced households. During the follow ups of original households, some household were found to be not traceable and hence not considered for the usage rate calculation. Final weighted usage rate is calculated considering all these factors. The calculation of the sample size for the monitoring surveys for the BSF units was based upon a 0.7 Coefficient of Variation under a 90/30 approach as mentioned in the PDD and also in Table 3 of Annex 4 of the approved Gold Standard baseline and monitoring methodology.

In accordance with the §25(a) of Standard for “Sampling and surveys for CDM project activities and programmes of activities” (version 08.0)/13/ and based on verification team’s professional judgment, the verification team has chosen acceptance sampling and randomly shortlisted a sample size of

24‡households covering each type of water filters distributed in different vintages.Further, the verification team has confirmed the following sampling approach –

- The sample size is based on the Acceptable Quality Level (AQL) of 1% and Unacceptable Quality Level (UQL) as 10% (as per §30 a and §30 b of Standard for "Sampling and surveys for CDM project activities and programmes of activities" (version 08.0)).
- The sample size considered appropriate as the Table 2of Standard for "Sampling and surveys for CDM project activities and programmes of activities" (version08.0)/13/ has already provided the sample size for verifying PP's data to be 24, for AQL=1% and UQL=10%.
- The maximum errors associated with the determination indicated in §39of Standard for "Sampling and surveys for CDM project activities and programmes of activities" (version 08.0) is considered as 5% for producer's risk and 5% for consumer's risk.

Based on the sampling approach the verification team has selected the households. The household sampled in the survey during remote audit, were cross verified with the sales record as well as with monitoring survey record to confirm the correctness of the data gathered at the time of survey. The result of verification team's observation based on the chosen sample are found consistent with the sales record. No discrepancy was found during off- site remote audit assessment. Thus, according to the result of verification team's random sampling as a part of the off-site remote audit assessment, the water filters were found installed and operating as per PP's sales records.

Findings:
CL 02 was raised during the verification process which was subsequently closed. This is discussed in detail in section 7 of this report.

Opinion:

a) In opinion of the assessment team the implementation and operation of the project activity is in compliance with the description in the revised PDD/1/. However, the filters sold are less than the estimated in the PDD for the corresponding period.

b) To date the PP has installed a total of 3,215 bio-sand, 2,070 domestic HHFF,164 institutional/ commercial-use HFF units used for domestic and institutional use in the project boundary. The filters installed during this verification period as verified from the sales records.

c) The verification team reviewed the revised PDD, including the monitoring plan and the corresponding validation report and the applied monitoring methodology, GS4GG requirements and found that the MR for this monitoring period is line with all the above mentioned documents.

d) The actual emission reductions for the current monitoring period are 16,191 tCO_2ewhich has been found appropriate.

3.3 Compliance of monitoring plan with the monitoring methodology including applicable tool(s)

Discussion:

The monitoring plan mentioned in the monitoring report/4/ is in line to the revised PDD/1/ and passport/3/, transition annex and in accordance with the approved methodology applied by the project activity, i.e. Technologies and Practices to Displace Decentralized Thermal Energy Consumption" (Version 1.0)/5/. All the ex-post monitoring parameters as per the applied methodology/5/ are included in the monitoring report/4/ and ER sheet/6/.

Also the registered PDD refers to the frequency of conducting the WCFT as annually however the PP would like to amend this frequency to every other year (biennially), which was approved by GS and

‡The list of 24 End users interviewed during the off site remote audit assessment have been provided as Annex to the Report

copy of same is available with verification team /18/. The methodology employed for this project, i.e. 'Technologies and Practices to Displace Decentralized Thermal Energy Consumption' version 01 dated 11/04/2011 states:

'For each baseline scenario and project scenario the BFT and PFT is updated every two years, Respectively'[§],

At registration, the PP had chosen a conservative approach of annually monitoring this parameter, however, the PP now wishes to conduct this as per the methodological threshold of once every 2 years. Seeing as the PP has conducted this exercise the past 2 monitoring periods back to back, the parameters related to this exercise would remain fixed in the next verification.

Findings:

N/A

Opinion:

The monitoring plan mentioned in the revised PDD is in line with the applied methodology i.e. Technologies and Practices to Displace Decentralized Thermal Energy Consumption(Version 1.0)/5/. The monitoring mechanism is in line with the methodology and is effective and reliable.

3.4 Post registration changes, if any

The PP proposed 2 permanent changes to the registered monitoring plan and approved by GS before the 2nd issuance:

1. Cj Factor fixed ex-ante:
The Cj factor that was previously a monitored parameter is now fixed ex-ante. This is in compliance with the registration review FAR that stated:

"The PP shall conduct a post registration baseline survey/water boiling tests prior to 2nd issuance considering in a representative way the target population in the project boundary and considering households prior to adopting the project technology"

The PP conducted the baseline testing in accordance to the Gold Standard methodology. The Household Cj factor is 18%, fixed ex-ante.

2. Biennial Monitoring of the Water Consumption per filter end user per day:
The registered PDD refers to the frequency of conducting the WCFT as annually. The PP would like to amend this frequency to every other year (biennially). The methodology employed for this project, i.e. 'Technologies and Practices to Displace Decentralized Thermal Energy Consumption - 11/04/2011' states:

'For each baseline scenario and project scenario the BFT and PFT is updated every two years,respectively',

At registration, the PP had chosen a conservative approach of annually monitoring this parameter, however, the PP now wishes to conduct this as per the methodological threshold of once every 2 years. Seeing as the PP has conducted this exercise the past monitoring periods back to back, the parameters related to this exercise would remain fixed this verification as the Gold Standard Foundation has approved this permanent deviation.

No PRC initiated during the current verification.

[§]Page 22 of the referenced methodology

3.5 Compliance of monitoring activities with registered monitoring plan

Discussion:

During the verification all relevant monitoring parameter have been verified with regard to the appropriateness of the verification method, the correctness of the values applied for ER calculation, the accuracy, and applied QA/QC measures. It is confirmed that the monitoring parameter has been measured / determined without material misstatements.The monitoring parameters involved in the project activity as per revised PDD/1/ are analysed in detail in the subsections below:

3.5.1. Data/Parameter, Unit: Qp,y_{BSF}, Litres per person per day

Quantity of safe water in litres consumed in the project scenario p and supplied by BSF project technology per person per day

	Discussion and verification assessment
Relevant SDG Indicator	SDG 6: Clean water and sanitation Target 6.1 : By 2030, achieve universal and equitable access to safe and affordable drinking water for all
Purpose of data	Baseline emissions
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	Calibrated Buckets for measuring water
Measuring/Reading/ Recording frequency	Biennially, 3 consecutive days of the monitoring exercise with exception of holidays
Data collection (from data generation, aggregation, to recording, calculation and reporting)	The Water Consumption Field Test results were collected for three consecutive days in each household included in the sample frame. An average of this was then obtained. The figure was then divided by the average number of people in the household.
Verified value	4l/p/d
Cross checks	In accordance with the GS deviation request approval/18/, the volume of water consumed per person per day for BSF during the last verification was 6.56 l/p/d and therefore a value of 4l/p/d has been applied during this monitoring period which is conservative and thusthe consideration of the same for emission reduction is found to be appropriate. The sampling requirement is that the 90/30 confidence/precision shall be used to determine the minimum required sample size. WCFT was not undertaken during this monitoring period and hence no sampling was done for this parameter.
QA/QC procedures applied	The enumerators were provided with calibrated buckets to ensure they took accurate measurements during the WCFT protocol

3.5.2. Data/Parameter, Unit: Qp,y_{HHFF}, Litres per person per day

Quantity of safe water in litres consumed in the project scenario p and supplied by HHFF units

	Discussion and verification assessment
Relevant SDG Indicator	SDG 6: Clean water and sanitation Target 6.1 : By 2030, achieve universal and equitable access to safe and affordable drinking water for all

Purpose of data	Baseline emissions
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	Calibrated Buckets for measuring water
Measuring/Reading/ Recording frequency	Biennially, 3 consecutive days of the monitoring exercise with exception of holidays
Data collection (from data generation, aggregation, to recording, calculation and reporting)	The Water Consumption Field Test results were collected for three consecutive days in each household included in the sample frame. An average of this was then obtained. The figure was then divided by the average number of people in the household.
Verified value	4l/p/d
Cross checks	In accordance with the GS deviation request approval, the volume of water consumed per person per day for HHFF during the last verification was 5.53l/p/d and therefore a value of 4l/p/d has been applied during this monitoring period which is conservative and thusthe consideration of the same for emission reduction is found to be appropriate. The sampling requirement is that the 90/30 confidence/precision shall be used to determine the minimum required sample size. WCFT was not undertaken during this monitoring period and hence no sampling was done for this parameter.
QA/QC procedures applied	The enumerators were provided with calibrated buckets to ensure they took accurate measurements during the WCFT protocol

3.5.3. Data/Parameter, Unit: Qp,y_{IHFF}, Litres of safe water produced per day from project technology

Quantity of safe water supplied in the project scenario p using the IHFF Filter

	Discussion and verification assessment
Relevant SDG Indicator	SDG 6: Clean water and sanitation Target 6.1 : By 2030, achieve universal and equitable access to safe and affordable drinking water for all
Purpose of data	Baseline emissions
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	Calibrated Buckets for measuring water
Measuring/Reading/ Recording frequency	Biennially, 3 consecutive days of the monitoring exercise with exception of holidays and weekends
Data collection (from data generation, aggregation, to recording, calculation and reporting)	The Water Consumption Field Test results were collected for three consecutive days in each institution included in the sample frame. An average of this was then obtained. The figure was then divided by the average number of people in the institution.
Verified value	0.87 l/p/d

Cross checks	In accordance with the GS deviation request approval, the volume of water consumed per person per day for IHFF technology, the value from the last verification was 0.87l/p/d and this value has been applied for this monitoring period and thusthe consideration of the same for emission reduction is found to be appropriate. The sampling requirement is that the 90/30 confidence/precision shall be used to determine the minimum required sample size. WCFT was not undertaken during this monitoring period and hence no sampling was done for this parameter.
QA/QC procedures applied	NA

3.5.4. Data/Parameter, Unit: Qp, rawboil,y_{BSF}**,** Litres per person per day

Quantity of raw water boiled in the project scenario p per person per day

	Discussion and verification assessment
Relevant SDG Indicator	SDG 6: Clean water and sanitation Target 6.1 : By 2030, achieve universal and equitable access to safe and affordable drinking water for all
Purpose of data	Project emissions
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	Calibrated Buckets for measuring water
Measuring/Reading/ Recording frequency	Biennially
Data collection (from data generation, aggregation, to recording, calculation and reporting)	The amount of raw water boiled was obtained for the three consecutive days during the water consumption field test before the water was poured into the boiling pot. An average of this amount was then obtained and divided by the average number of people in the household. (There were no households boiling water in the project scenario)
Verified value	There were no households boiling water in the project scenario
Cross checks	This has been cross checked by interviewing the households during the verification off-site remote assessment. WCFT was not undertaken during this monitoring period and hence no sampling was done for this parameter.The household surveyed during the monitoring survey by project participant were interviewed by the verification team and It has been confirmed that the figures mentioned in the survey sheet/11/ and considered for emission reduction are appropriate.
QA/QC procedures applied	The enumerators were trained how to accurately measure this parameter using calibrated buckets.

3.5.5. Data/Parameter, Unit: Qp, rawboil,y_{HHFF},Litres per person per day

Quantity of raw water boiled in the project scenario p per person per day

	Discussion and verification assessment
Relevant SDG Indicator	SDG 6: Clean water and sanitation Target 6.1 : By 2030, achieve universal and equitable access to safe and

	affordable drinking water for all
Purpose of data	Project emissions
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	Calibrated Buckets for measuring water
Measuring/Reading/ Recording frequency	Biennially
Data collection (from data generation, aggregation, to recording, calculation and reporting)	The amount of raw water boiled was obtained for the three consecutive days during the water consumption field test before the water was poured into the boiling pot. An average of this amount was then obtained and divided by the average number of people in the household. (There were no households boiling water in the project scenario)
Verified value	There were no households boiling water in the project scenario
Cross checks	This has been cross checked by interviewing the households during the verification off-site remote assessment. WCFT was not undertaken during this monitoring period and hence no sampling was done for this parameter.The household surveyed during the monitoring survey by project participant were interviewed by the verification team and It has been confirmed that the figures mentioned in the survey sheet/11/ and considered for emission reduction are appropriate.
QA/QC procedures applied	The enumerators were trained how to accurately measure this parameter using calibrated buckets.

3.5.6. Data/Parameter, Unit: Qp, rawboil,y_{IHFF},Litres per person per day

Quantity of raw water boiled in the project scenario p per person per day

	Discussion and verification assessment
Relevant SDG Indicator	SDG 6: Clean water and sanitation Target 6.1 : By 2030, achieve universal and equitable access to safe and affordable drinking water for all
Purpose of data	Project emissions
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	Calibrated Buckets for measuring water
Measuring/Reading/ Recording frequency	Biennially
Data collection (from data generation, aggregation, to recording, calculation and reporting)	The amount of raw water boiled was obtained for the three consecutive days during the water consumption field test before the water was poured into the boiling pot. An average of this amount was then obtained and divided by the average number of people in the household. (There were no households boiling water in the project scenario)
Verified value	There were no households boiling water in the project scenario
Cross checks	This has been cross checked by interviewing the households during the verification off-site remote assessment. WCFT was not undertaken

	during this monitoring period and hence no sampling was done for this parameter.The household surveyed during the monitoring survey by project participant were interviewed by the verification team and It has been confirmed that the figures mentioned in the survey sheet/11/ and considered for emission reduction are appropriate.
QA/QC procedures applied	The enumerators were trained how to accurately measure this parameter using calibrated buckets.

3.5.7. Data/Parameter, Unit: Qp, clean,boil,y_{BSF}, Litres per person per day

Quantity of safe water boiled in the project scenario p per person per day

	Discussion and verification assessment
Relevant SDG Indicator	SDG 6: Clean water and sanitation Target 6.1: By 2030, achieve universal and equitable access to safe and affordable drinking water for all
Purpose of data	Project emissions
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	Calibrated Buckets for measuring water
Measuring/Reading/ Recording frequency	Biennially
Data collection (from data generation, aggregation, to recording, calculation and reporting)	The amount of filtered water boiled was obtained for the three consecutive days during the water consumption field test before the water was poured into the boiling pot. An average of this amount was then obtained and divided by the average number of people in the household and thereafter the number of people in the sample frame.
Verified value	0
Cross checks	This has been cross checked by interviewing the randomly shortlisted households from the database as a acceptable sampling number during the verification off-site remote assessmentand thusthe consideration of the same for emission reduction is found to be appropriate. WCFT was not undertaken during this monitoring period and hence no sampling was done for this parameter.
QA/QC procedures applied	The enumerators were trained how to accurately measure this parameter using calibrated buckets.

3.5.8. Data/Parameter, Unit: Qp, clean,boil,y_{HHFF}, Litres per person per day

Quantity of safe water boiled in the project scenario p per person per day

	Discussion and verification assessment
Relevant SDG Indicator	SDG 6: Clean water and sanitation Target 6.1: By 2030, achieve universal and equitable access to safe and affordable drinking water for all
Purpose of data	Project emissions
Monitoring equipment	Calibrated Buckets for measuring water

(type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	
Measuring/Reading/ Recording frequency	Biennially
Data collection (from data generation, aggregation, to recording, calculation and reporting)	The amount of raw water boiled was obtained for the three consecutive days during the water consumption field test before the water was poured into the boiling pot. An average of this amount was then obtained and divided by the average number of people in the household. (There were no households boiling water in the project scenario)
Verified value	0
Cross checks	This has been cross checked by interviewing the randomly shortlisted households from the database as a acceptable sampling number during the verification off-site remote assessment and thusthe consideration of the same for emission reduction is found to be appropriate. WCFT was not undertaken during this monitoring period and hence no sampling was done for this parameter.
QA/QC procedures applied	The enumerators were trained how to accurately measure this parameter using calibrated buckets.

3.5.9. Data/Parameter, Unit: Qp, clean,boil,y_{IHFF}**,** Litres per person per day

Quantity of safe water boiled in the project scenario p per person per day

	Discussion and verification assessment
Relevant SDG Indicator	SDG 6: Clean water and sanitation Target 6.1: By 2030, achieve universal and equitable access to safe and affordable drinking water for all
Purpose of data	Project emissions
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	Calibrated Buckets for measuring water
Measuring/Reading/ Recording frequency	Biennially
Data collection (from data generation, aggregation, to recording, calculation and reporting)	The amount of filtered water boiled was obtained for the three consecutive days during the water consumption field test before the water was poured into the boiling pot. Amount is measured and recorded.
Verified value	0
Cross checks	This has been cross checked by interviewing the randomly shortlisted households from the database as a acceptable sampling number during the verification off-site remote assessment and thusthe consideration of the same for emission reduction is found to be appropriate.WCFT was not undertaken during this monitoring period and hence no sampling was done for this parameter.

QA/QC procedures applied	The enumerators were trained how to accurately measure this parameter using calibrated buckets.

3.5.10. Data/Parameter, Unit: Np,y_{BSF}, Person.days

Number of persons consuming water supplied by project scenario p through year y

	Discussion and verification assessment
Relevant SDG Indicator	SDG 3: Good health and well being Target 3.3: By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases.
Purpose of data	Baseline emissions
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	No Equipment Used, Calculated from the results of Monitoring survey
Measuring/Reading/ Recording frequency	Biennial
Data collection (from data generation, aggregation, to recording, calculation and reporting)	Households were asked the number of people living in their household for that particular day in the three consecutive days during the water consumption field test. An average of this number was then obtained for each household and an average of total obtained. The figure was multiplied by 365 days in a year to obtain the figure.
Verified value	2,821
Cross checks	The GS requirement in the deviation request approval was that "The number of persons in a household shall be accounted for in a conservative manner. Projects may determine this as part of the Usage/Project Survey, however, the resulting value shall be compared with the results of the previous monitoring period or host country census data (for residential units) or school attendance and enrolment records (for schools) and apply the most conservative value for this MP". The applied values during this monitoring period for BSF is 2,821 which is more conservative compared to last verification. This has been cross checked by interviewing the randomly shortlisted households from the database as a acceptable sampling number during the verification off-site remote assessment and thusthe consideration of the same for emission reduction is found to be appropriate.
QA/QC procedures applied	NA

3.5.11. Data/Parameter, Unit: Np,y_{HHFF}, Person.days

Number of persons consuming water supplied by project scenario p through year y

	Discussion and verification assessment
Relevant SDG Indicator	SDG 3: Good health and well being Target 3.3: By 2030, end the epidemics of AIDS, tuberculosis, malaria

	and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases.
Purpose of data	Baseline emissions
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	No Equipment Used, Calculated from the results of Monitoring survey
Measuring/Reading/ Recording frequency	Biennial
Data collection (from data generation, aggregation, to recording, calculation and reporting)	Households were asked the number of people living in their household for that particular day in the three consecutive days during the water consumption field test. An average of this number was then obtained for each household and an average of total obtained. The figure was multiplied by 365 days in a year to obtain the figure.
Verified value	2,059
Cross checks	The GS requirement in the deviation request approval was that "The number of persons in a household shall be accounted for in a conservative manner. Projects may determine this as part of the Usage/Project Survey, however, the resulting value shall be compared with the results of the previous monitoring period or host country census data (for residential units) or school attendance and enrolment records (for schools) and apply the most conservative value for this MP". For HHFF the value of 2,059 has been applied since its more conservative compared to this year's 2,091.This has been cross checked by interviewing the randomly shortlisted households from the database as acceptable sampling number during the verification off-site remote assessment and thusthe consideration of the same for emission reduction is found to be appropriate.
QA/QC procedures applied	NA

3.5.12. Data/Parameter, Unit: Np,y_{IHFF}, Person.days

Number of persons consuming water supplied by project scenario p through year y

	Discussion and verification assessment
Relevant SDG Indicator	SDG 3: Good health and well being Target 3.3: By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases.
Purpose of data	Baseline emissions
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	No Equipment Used, Calculated from the results of Monitoring survey
Measuring/Reading/ Recording frequency	Biennial

Data collection (from data generation, aggregation, to recording, calculation and reporting)	Households were asked the number of people living in their household for that particular day in the three consecutive days during the water consumption field test. An average of this number was then obtained for each household and an average of total obtained. The figure was multiplied by 365 days in a year to obtain the figure.
Verified value	The parameter has been calculated individually for each institution. The calculations presented for each of the Institution has been checked from the ERs Excel sheet tab ER- calculation- IHFFand found corrected.
Cross checks	This has been cross checked by interviewing the households during the verification off-site remote assessment. The household surveyed during the monitoring survey by project participant were interviewed by the verification team and It has been confirmed that the figures mentioned in the survey sheet/11/ and considered for emission reduction are appropriate.
QA/QC procedures applied	NA

3.5.13. Data/Parameter, Unit: Up,y_{BSF}, Percentage

Usage rate in project scenario p during year y. This data will be used to account for households which discontinue use of the filters from the monitored sample frame and thereafter be extrapolated across the total sales record.

	Discussion and verification assessment
Relevant SDG Indicator	SDG 3: Good health and well being *Target 3.3:* By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases.
Purpose of data	Calculation of total emission reductions
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	No Equipment Used, Calculated from the results of survey
Measuring/Reading/ Recording frequency	Annually
Data collection (from data generation, aggregation, to recording, calculation and reporting)	The usage parameter for each vintage was calculated by getting the fraction of users in the sample frame for that vintage and getting the percentage in relation to the total in the sample frame. Thereafter, the weighted average per vintage was obtained by extrapolating the usage in the sample per vintage into the entire population of the TSR for that particular vintage. Each of the usage rates for each vintage was then used for calculation of emission reduction. The PP has provided excel based calculations that demonstrate the calculation of the usage parameter.
Verified value	2019– 60.00% 2020– 60.00%
Cross checks	This has been cross checked by interviewing the households during the verification off-site remote assessment.

	The usage value attained during this monitoring period for BSF was 63.92%. The values applied in the ER calculations was 60% (2017/2018) since it was the most conservative from all previous verifications and hence acceptable.
QA/QC procedures applied	The guidance questions in the usage survey clearly determined the operational and non-operational filters in the project scenario.

3.5.14. Data/Parameter, Unit: Up,y_{HHFF}, Percentage

Usage rate in project scenario p during year y. This data will be used to account for households which discontinue use of the filters from the monitored sample frame and thereafter be extrapolated across the total sales record.

	Discussion and verification assessment
Relevant SDG Indicator	SDG 3: Good health and well being *Target 3.3:* By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases.
Purpose of data	Calculation of total emission reductions
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	No Equipment Used, Calculated from the results of survey
Measuring/Reading/ Recording frequency	Annually
Data collection (from data generation, aggregation, to recording, calculation and reporting)	The usage parameter for each vintage was calculated by getting the fraction of users in the sample frame for that vintage and getting the percentage in relation to the total in the sample frame. Thereafter, the weighted average per vintage was obtained by extrapolating the usage in the sample per vintage into the entire population of the TSR for that particular vintage. Each of the usage rates for each vintage was then used for calculation of emission reduction The PP has provided excel based calculations that demonstrate the calculation of the usage parameter.
Verified value	2019– 68.00 % 2020– 68.00 %
Cross checks	This has been cross checked by interviewing the households during the verification off-site remote assessment. The usage value attained during this monitoring period for HHFF was 83.92%. The values applied in the ER calculations was 68% (2017/2018) since it was the most conservative from all previous verifications and hence acceptable.
QA/QC procedures applied	The guidance questions in the usage survey clearly determined the operational and non-operational filters in the project scenario.

3.5.15. Data/Parameter, Unit: Up,y_{IHFF}, Percentage

Usage rate in project scenario p during year y. This data will be used to account for households which discontinue use of the filters from the monitored sample frame and thereafter be extrapolated across the total sales record.

	Discussion and verification assessment
Relevant SDG Indicator	SDG 3: Good health and well being *Target 3.3:* By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases.
Purpose of data	Calculation of total emission reductions
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	No Equipment Used, Calculated from the results of survey
Measuring/Reading/ Recording frequency	Annually
Data collection (from data generation, aggregation, to recording, calculation and reporting)	The usage parameter for each vintage was calculated by getting the fraction of users in the sample frame for that vintage and getting the percentage in relation to the total in the sample frame. Thereafter, the weighted average per vintage was obtained by extrapolating the usage in the sample per vintage into the entire population of the TSR for that particular vintage. Each of the usage rates for each vintage was then used for calculation of emission reduction The PP has provided excel based calculations that demonstrate the calculation of the usage parameter.
Verified value	2019 – 53.00 % 2020 – 53.00 %
Cross checks	This has been cross checked by interviewing the households during the verification off-site remote assessment. The usage value attained during this monitoring period for IHFF was 92.59%. The values applied in the ER calculations was 53% (2016/2017) since it was the most conservative from all previous verifications and hence acceptable.
QA/QC procedures applied	The guidance questions in the usage survey clearly determined the operational and non-operational filters in the project scenario.

3.5.16. Data/Parameter, Unit: Quality of the treated water$_{BSF}$, %

Performance of the project technologies shall be based on percentage reduction of E.Coli examined through field tests in the project boundary.

	Discussion and verification assessment
Relevant SDG Indicator	SDG 6: Clean water and Sanitation Target 6.1: By 2030, achieve universal and equitable access to safe and affordable drinking water for all
Purpose of data	Sustainable development Monitoring; Methodological Requirement
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	Field Laboratory Tests
Measuring/Reading/	Annually

Recording frequency	
Data collection (from data generation, aggregation, to recording, calculation and reporting)	The water quality tests were conducted using 3M Petrifilm Plate instructions/16/. Water samples were collected from raw water and water filtered using the project technologies to determine coliform levels in both water samples.
Verified value	Safe – 100% Unsafe – 0%
Cross checks	The water quality assessment was done during the remote surveys and included a qualitative criterion for Water Quality which covered the following aspects: • Reported incidence of water borne disease in child/members in last 30 days • User satisfaction • Level of hygiene including but limited to Hand washing & Safe storage practices being followed. The water quality testing value from the last verification (2018/2019) was 99.29% for BSF which indicates a consistent trend on the quality of the water supplied by the project. However, in compliance with the GS deviation approval, the most conservative value from previous verifications have been applied for BSF 94.87% (2012/2014). The same has been found conservative and appropriate. PP has also provided an endorsement letter from the Ministry of Health, Kijauri Sub-County as a support documents which further confirms the quality of water provided by the project. The methodological requirement is that the 90/30 confidence/precision should be used to determine the minimum required sample size. This has been achieved as the water quality assessment was undertaken for all the end-users with functional water filters. The samples were as follows: BSF-248 This has been cross checked by interviewing randomly selected 8 households during the verification off-site remote assessment.
QA/QC procedures applied	NA

3.5.17. Data/Parameter, Unit: *Quality of the treated water$_{HHHFF}$, %*

Performance of the project technologies shall be based on percentage reduction of E.Coli examined through field tests in the project boundary.

	Discussion and verification assessment
Relevant SDG Indicator	SDG 6: Clean water and Sanitation Target 6.1: By 2030, achieve universal and equitable access to safe and affordable drinking water for all
Purpose of data	Sustainable development Monitoring; Methodological Requirement
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration,	Field Laboratory Tests

validity)	
Measuring/Reading/ Recording frequency	Annually
Data collection (from data generation, aggregation, to recording, calculation and reporting)	The water quality tests were conducted using 3M Petrifilm Plate instructions/16/. Water samples were collected from raw water and water filtered using the project technologies to determine coliform levels in both water samples.
Verified value	Safe – 100% Unsafe -0%
Cross checks	The water quality assessment was done during the remote surveys and included a qualitative criterion for Water Quality which covered the following aspects: • Reported incidence of water borne disease in child/members in last 30 days • User satisfaction • Level of hygiene including but limited to Hand washing & Safe storage practices being followed. The water quality testing value from the last verification (2018/2019) was 100% for HHFF which indicates a consistent trend on the quality of the water supplied by the project. However, in compliance with the GS deviation approval, the most conservative value from previous verifications have been applied for HHFF 99% (2017/2018). The same has been found conservative and appropriate. PP has also provided an endorsement letter from the Ministry of Health, Kijauri Sub-County as a support documents which further confirms the quality of water provided by the project. The methodological requirement is that the 90/30 confidence/precision should be used to determine the minimum required sample size. This has been achieved as the water quality assessment was undertaken for all the end-users with functional water filters. The samples were as follows: HHFF-261.This has been cross checked by interviewing randomly selected8 households during the verification off-site remote assessment.
QA/QC procedures applied	NA

3.5.18. Data/Parameter, Unit: Quality of the treated water IHFF, %

Performance of IHFF filters shall be based on percentage reduction of E.Coli in the IHFF Filters examined through field tests in the project boundary.

	Discussion and verification assessment
Relevant SDG Indicator	SDG 6: Clean water and Sanitation Target 6.1: By 2030, achieve universal and equitable access to safe and affordable drinking water for all
Purpose of data	Sustainable development Monitoring; Methodological Requirement

Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	Field Laboratory Tests
Measuring/Reading/ Recording frequency	Annually
Data collection (from data generation, aggregation, to recording, calculation and reporting)	The water quality tests were conducted using 3M Petrifilm Plate instructions. Water samples were collected from raw water and water filtered using the project technologies to determine coliform levels in both water samples
Verified value	Safe – 100% Unsafe –0%
Cross checks	The water quality assessment was done during the remote surveys and included a qualitative criterion for Water Quality which covered the following aspects: • Reported incidence of water borne disease in child/members in last 30 days • User satisfaction • Level of hygiene including but limited to Hand washing & Safe storage practices being followed. The water quality testing value from the last verification (2018/2019) and all past verifications was 100% for IHFF which indicates a consistent trend on the quality of the water supplied by the project. PP has also provided an endorsement letter from the Ministry of Health, Kijauri Sub-County as a support documents which further confirms the quality of water provided by the project. The methodological requirement is that the 90/30 confidence/precision should be used to determine the minimum required sample size. This has been achieved as the water quality assessment was undertaken for all the end-users with functional water filters. The samples were as follows: IHFF-125. This has been cross checked by interviewing randomly selected 8 households during the verification off-site remote assessment.
QA/QC procedures applied	NA

3.5.19. Data/Parameter, Unit: Quantity of wood fuel consumed in baseline scenario b during the year y in tons Bb,y

	Discussion and verification assessment
Relevant SDG Indicator	SDG 13: Climate Action Target 13.1: Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries
Purpose of data	Calculation of Baseline emissions
Monitoring equipment (type, accuracy class, serial number,	N/A

calibration frequency, date of last calibration, validity)	
Measuring/Reading/ Recording frequency	Annually
Data collection (from data generation, aggregation, to recording, calculation and reporting)	The parameter is a function of the Cj factor, Npy, Wib,y , Qpy an Qp raw boil as shown in the equation below: Bby= (1-Cj)*Wib,y*Np,y*(Qpy+Qpraw,boil)
Verified value	BSF: 3.70144 HHFF: 2.70084 IHFF: 0.000084
Cross checks	The same has been confirmed through the monitoring survey forms, monitoring survey conducted by the PP and through the interviews conducted with the households during the off-site remote assessment.
QA/QC procedures applied	The variables were based on accurate monitored data as well as data fixed ex-ante. Additionally, the formula used is derived from the GS approved methodology "Technologies and practices to Displace Decentralized Thermal Energy Consumption", version 01.

3.5.20. Data/Parameter, Unit: Number of filters sold

	Discussion and verification assessment
Relevant SDG Indicator/Safeguarding Principle	SDG 3: Good health and well being Target 3.9: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.
Purpose of data	*Calculation of emission reductions.*
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	The total number of filters sold have been verified from the total sales records.
Measuring/Reading/ Recording frequency	Annual
Data collection (from data generation, aggregation, to recording, calculation and reporting)	The total number of filters sold have been verified from the total sales record.
Verified value	BSF- 3,215 HHFF – 2,070 IHFF –164
Cross checks	The same was checked from the revised MR and was also confirmed during the off-site remote assessment through the TSR sheet /18/, interview and monitoring records.
QA/QC procedures applied	It was confirmed through the monitoring arrangements during the remote audit that the total sales records are continuously updated.

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3.5.21. Data/Parameter, Unit: Reduction in water borne diseases such as skin rash, diarrhoea, foot sores, parasites, eye problems and other water borne diseases, %

	Discussion and verification assessment
Relevant SDG Indicator	SDG 3: Good health and well being Target 3.9: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.
Purpose of data	Gold Standard's Sustainable Development Monitoring
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	Open ended questionnaires to ascertain real and perceived improvements in household health and reduction of water borne diseases.
Measuring/Reading/ Recording frequency	Annually
Data collection (from data generation, aggregation, to recording, calculation and reporting)	Monitoring Survey
Verified value	BSF: 96.8% HHFF: 100% IHFF: 97.6% For BSF users, eight has experienced no change in incidence of waterborne disease since they started using their filter. With HHFF, no one person reported getting a water borne disease. With IHFF, three person reported have a water borne disease as well.
Cross checks	Surveys were conducted remotely for all households with functional water filters. This has been achieved as the sustainable development assessment was undertaken for all the end-users with functional water filters.This has been cross checked from the Survey results/15/ of the surveyed household and found correct.
QA/QC procedures applied	The questionnaire is asked in an unbiased manner to ensure the respondents are not coerced into any answer by the interviewer

3.5.22. Data/Parameter, Unit: Air Quality, %

	Discussion and verification assessment
Relevant SDG Indicator	SDG 3: Good health and well being Target 3.9: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.
Purpose of data	Gold Standard's Sustainable Development Monitoring
Monitoring equipment (type, accuracy class, serial number,	Monitoring Survey questionnaire

calibration frequency, date of last calibration, validity)	
Measuring/Reading/ Recording frequency	Annually
Data collection (from data generation, aggregation, to recording, calculation and reporting)	The number of end users with the perceived outcome e.g. reduced levels of smoke was divided by the total units in the sample frame and multiplied by 100 to get the percentage.
Verified value	BSF Reduced Smoke levels in the House: Yes = 96.8% No Change = 3.2% Reduced Incidents of Coughing: Yes = 94.8% No Change = 5.2% Reduced incidences of Itchy Eyes: Yes = 93.5% No Change = 6.5%
Cross checks	The monitoring survey questions related to air quality were fashioned in an unbiased manner so as not to influence the feedback from the respondents in any way. Surveys were conducted remotely for all households with functional water filters. This has been achieved as the sustainable development assessment was undertaken for all the end-users with functional water filters. This has been cross checked from the Survey results/15/ of the surveyed household and found correct.
QA/QC procedures applied	The monitoring survey questions related to air quality were fashioned in an unbiased manner so as not to influence the feedback from the respondents in any way.

3.5.23. Data/Parameter, Unit: Air Quality, %

	Discussion and verification assessment
Relevant SDG Indicator	SDG 3: Good health and well being Target 3.9: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.
Purpose of data	Gold Standard's Sustainable Development Monitoring
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	Monitoring Survey questionnaire
Measuring/Reading/	Annually

Recording frequency	
Data collection (from data generation, aggregation, to recording, calculation and reporting)	The number of end users with the perceived outcome e.g. reduced levels of smoke was divided by the total units in the sample frame and multiplied by 100 to get the percentage.
Verified value	HHFF Reduced Smoke levels in the House Yes = 98.5% No Change = 1.5% Reduced Incidents of Coughing: Yes = 65% No Change = 5% Reduced incidences of Itchy Eyes: Yes = 97.7% No Change = 2.3%
Cross checks	The monitoring survey questions related to air quality were fashioned in an unbiased manner so as not to influence the feedback from the respondents in any way. Surveys were conducted remotely for all households with functional water filters. This has been achieved as the sustainable development assessment was undertaken for all the end-users with functional water filters.This has been cross checked from the Survey results/15/ of the surveyed household and found correct.
QA/QC procedures applied	The monitoring survey questions related to air quality were fashioned in an unbiased manner so as not to influence the feedback from the respondents in any way.

3.5.24. Data/Parameter, Unit: Air Quality, %

	Discussion and verification assessment
Relevant SDG Indicator	SDG 3: Good health and well being Target 3.9: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.
Purpose of data	Gold Standard's Sustainable Development Monitoring
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	Monitoring Survey questionnaire
Measuring/Reading/ Recording frequency	Annually
Data collection (from data generation, aggregation, to recording, calculation	The number of end users with the perceived outcome e.g. reduced levels of smoke was divided by the total units in the sample frame and multiplied by 100 to get the percentage.

and reporting)	
Verified value	IHFF Reduced Smoke levels in the House: Yes = 83.2% No Change = 16.8% Reduced Incidents of Coughing: Yes = 78.4% No Change = 21.6% Reduced incidences of Itchy Eyes: Yes = 82.4% No Change = 17.6%
Cross checks	This has been cross checked from the Survey results/15/ of the surveyed household and found correct.
QA/QC procedures applied	The monitoring survey questions related to air quality were fashioned in an unbiased manner so as not to influence the feedback from the respondents in any way.

3.5.25. Data/Parameter, Unit: Number of people attending training/ workshops on maintenance of the water filters, water and sanitation management., NA

	Discussion and verification assessment
Relevant SDG Indicator	SDG 6: Clean water and Sanitation Target 6b: Support and strengthen the participation of local communities in improving water and sanitation management
Purpose of data	Gold Standard's Sustainable Development Monitoring
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	Training records
Measuring/Reading/ Recording frequency	Annually
Data collection (from data generation, aggregation, to recording, calculation and reporting)	The data has been sourced from the training records.
Verified value	9trainings were held as summarised below: • WASHiriki WASH training on 26th -28th November 2019 at Nyamira, Kenya: 30 participants • Community WASH promotion: 17th -19th June 2020 at Sotik, Kenya: 18 participants • P&G WASH promotion and training: 11/2/2020 at Kisumu, Kenya: 11 participants • Nyamira WASH learning exchange workshop for NGOs and Ministry of Health: 24/10/2019 at Nyamira, Kenya: 29 participants • Delivering effective wash training workshop: 23rd -26th July 2019 at Kisii, Kenya: 14 participants • Introduction to household water treatment and safe water storage workshop:22nd -23rd October 2019 at Nyamira, Kenya: 16

	participants • Community WASH promoters training: 28th -31st October 2019 at Narok, Kenya: 21 participants • Community WASH promoters training,Mwongori-Mogusii: 8th - 10th October 2019 at Kisii, Kenya: 22 participants Community WASH promoters training-Motiret: 27th -19th October 2019 at Narok, Kenya: 11 participants
Cross checks	The training records/details /14/ were confirmed during the off-site remote audit assessment.
QA/QC procedures applied	Accurate and up to date records on trainings held by the project are kept by the project participant.

3.5.26. Data/Parameter, Unit: Employment wages of people employed by the project, NA

	Discussion and verification assessment
Relevant SDG Indicator	SDG 8: Decent Work and Economic Growth Target 8.5: By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value.
Purpose of data	Gold Standard's Sustainable Development Monitoring
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	Employment and Wages Records/14/
Measuring/Reading/ Recording frequency	Annually
Data collection (from data generation, aggregation, to recording, calculation and reporting)	The data has been sourced from the employment records /14/.
Verified value	54 people were employed by the project. These included 15 permanent employees at Aqua Clara, 36 people who were employed in the filter distribution program and 3 as enumerators for the monitoring survey exercise. Both women and youth have been employed in this project as evidenced in the employment record and monitoring survey summary. For the filter installers, 12were men and 23 women. Out of the 15 permanent ACI employees, 11 people in total are youths, defined in Kenya as persons under the age of 35 years. The specific wages for the staff was verified through the records available at the PP's office during the off-site remote audit assessment. Further the staff people were also interviewed on the wages to confirm on the records submitted for verification during the off-site remote audit assessment. Hence equal pay for work of equal value made to both men and women staffs was verified during the off-site remote audit assessment..
Cross checks	The employment and wages details were confirmed through the remote audit interview and employment and wages records/14/.
QA/QC procedures applied	Employment Records are kept electronically and updated frequently to ensure they are up to date.

3.5.27. Data/Parameter, Unit: Records of income generated by entrepreneurs enrolled in the project activity distribution programme, NA

	Discussion and verification assessment
Relevant SDG Indicator	SDG 8: Decent Work and Economic Growth Target 8.5: By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value.
Purpose of data	Gold Standard's Sustainable Development Monitoring
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	Entrepreneurs Employment and wages Records
Measuring/Reading/ Recording frequency	Annually
Data collection (from data generation, aggregation, to recording, calculation and reporting)	The data has been sourced from the employment and wages records
Verified value	36people were employed in the filter distribution program. Each person was paid KShs. 500 for each filter sold. The highest record of filters sold by the employees is 135filters where the employee was paid Kshs. 67,500. While the lowest had sold receiving 1 filter and got Kshs. 500. There are also 15permanent employees working with the project. The employment records have been submitted separately. Total income generated by the employees from filter distribution is KShs. 295,000 while that from the monitoring exercise is Kshs.46,400. The employment and wages records have been submitted to the assessment team, which was checked and found appropriate. Equal pay was made to both men and women depending on the number of filters sold where a payment of Ksh. 500 was made for every filter. The same also discussed with both men and women and hence confirmed during the off-site remote audit assessment..
Cross checks	The employment and wages records /14/were checked during the remote audit with the monitoring records.
QA/QC procedures applied	Employment Records are kept electronically and updated frequently to ensure they are up to date.

3.5.28. Data/Parameter, Unit: Number of people employed by the project, NA

	Discussion and verification assessment
Relevant SDG Indicator	SDG 8: Decent Work and Economic Growth Target 8.5: By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value

Purpose of data	Gold Standard's Sustainable Development Monitoring
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	Employment Records
Measuring/Reading/ Recording frequency	Annually
Data collection (from data generation, aggregation, to recording, calculation and reporting)	The data has been sourced from the employment records.
Verified value	Both women and youth have been employed in this project as evidenced in the employment record and monitoring survey summary. A total of 36 people was employed in the project including 15 permanent employees at Aqua Clara and 21people who were employed in the filter distribution program. The project has employed both men and women. From the employment records it is evident that all the employees are paid equally depending on equal value of work done as in the case of the CDE where a pay of 500 is made for each filter sold. Additionally, all payments are above the official Kenya's minimum wages*.
Cross checks	The Employment details were confirmed through the off-site remote audit assessment the by reviewing Employment Records /14/
QA/QC procedures applied	The employment records for current monitoring period is found appropriate.

3.5.29. Data/Parameter, Unit: Number of people attending training/ workshops on water filters, Number of people

	Discussion and verification assessment
Relevant SDG Indicator	Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation Target: 9.4: By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities
Purpose of data	Gold Standard's Sustainable Development Monitoring
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	Training records
Measuring/Reading/ Recording frequency	Annually
Data collection (from data generation,	The data has been sourced from the training records.

*http://kenyalaw.org/kl/fileadmin/pdfdownloads/LegalNotices/2015/LN117_2015.pdf

aggregation, to recording, calculation and reporting)	
Verified value	16 people were trained through the trainings. During this monitoring period, there is a total of 16 filter installers (7women and 9men) who are trained on filter assembly, installation and maintenance. At installation, the households/ institutions are also trained on proper usage and maintenance of the filter. 1 refresher training was conducted, and training participants list has been provided. Training manual has been provided as a support document.
Cross checks	The training details were confirmed during the off-site remote audit assessment through interviews and training records /14/.
QA/QC procedures applied	Accurate and up to date records on trainings held by the project are kept by the project participant.

3.5.30. Data/Parameter, Unit: Number of workshops, seminars organized, and training-related opportunities held. Certificates/ training manuals, NA

	Discussion and verification assessment
Relevant SDG Indicator	SDG 13: Take urgent action to combat climate change and its impacts Target 13.1: Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.
Purpose of data	Gold Standard's Sustainable Development Monitoring
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	Training records
Measuring/Reading/ Recording frequency	Annually
Data collection (from data generation, aggregation, to recording, calculation and reporting)	The data has been sourced from the training records.
Verified value	During the monitoring period, 9 such trainings were conducted. The trainings were on filter installation and maintenance, WASH and Community Development Entrepreneurs (CDE) meeting. During this trainings, the people were also trained about the filters.
Cross checks	The training details were confirmed through the off-site remote audit assessment through interviews and training manuals.
QA/QC procedures applied	Accurate and up to date records on trainings held by the project are kept by the project participant.

3.5.31. Data/Parameter, Unit: LEp,y, t CO_2e/year

	Discussion and verification assessment
Relevant SDG Indicator/Safeguarding Principle	SDG 13: Climate Action Target 13.3: Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.

Purpose of data	*Calculation of emission reductions.*
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	In accordance with the methodology an assessment of all project scenarios which might result in leakage emissions has been conducted. This demonstrated, there are no potential leakage emission sources arising.
Measuring/Reading/ Recording frequency	Biennially
Data collection (from data generation, aggregation, to recording, calculation and reporting)	Literature Review
Verified value	0
Cross checks	There are no perceived monitoring requirements for leakage emissions for this project. The same has been cross checked from the revised MR/1/ also.
QA/QC procedures applied	There are no perceived leakage risks for this project as explained in section E.3of the Monitoring report.

Findings:

CL 02 and CL 04, was raised during the course of verification which was subsequently successfully closed. This is discussed in detail in section 7 of this report.

Opinion:

The adequacy and compliance of the monitoring plan in the Monitoring report/4/ was found as per the requirements laid by the GS4GG requirements, GS transition annex, monitoring methodology/5/ and the registered PDD/1/. The information flow (from data generation, aggregation, to recording, calculation and reporting) is already included under respective parameter above. The verification team has verified all the data and collected evidence as per the required monitoring frequency and found to be correct and appropriate meeting the GS4GG requirements,, requirements of applied methodology and registered PDD. The sustainability parameters were also reviewed and the assessment team is of the opinion that the project elevates the living standard of the rural population and aids in better health by reducing the exposure to water borne diseases.During the remote audit, it was also confirmed that the defined grievance mechanisms have been in place during the monitoring period and there were no other comments received apart from the ones which included in the logbook/24/ linked with the filter maintenance which has been resolved as per records .

3.6 Compliance with the calibration frequency requirements for measuring instruments

The monitoring for the project activity is done through the surveys conducted for the sample population. The data from the survey sheets is transferred to the excel sheet which is further used for calculation of emission reductions. Therefore there are no instruments involved in monitoring.

3.7 Data not monitored (ex-ante or external parameters)

3.7.1. Data/Parameter, Unit: Wb,y**,** Tonnes/litre

Quantity of fuel in tons required to treat 1 litre of water using technologies representative of baseline scenario b

	Discussion and verification assessment

Relevant SDG Indicator	SDG 13: Climate Action Target 13.1: Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries
Purpose of data	Calculation of Baseline Emissions
Verified value	Households – 0.0004 Institutions/commercial facilities – 0.0004
Source of value	GS Default value
Justification	The value applied is conservative and consistent with the GS Default value.

3.7.2. Data/Parameter, Unit: EFb,fuel,CO2**,** tCO2/TJ

CO2 emission factor of the wood fuel

	Discussion and verification assessment
Relevant SDG Indicator	SDG 13: Climate Action Target 13.1: Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries
Purpose of data	CO_2 emission factor of the wood fuel
Verified value	112
Source of value	IPCC Default emission factor
Justification	The value is conservative as IPCC values /21/ are prescribed by the applied Methodology/5/.

3.7.3. Data/Parameter, Unit: NCV_b**,** TJ/ton

Net calorific value of wood fuel used in the baseline

	Discussion and verification assessment
Relevant SDG Indicator	SDG 13: Climate Action Target 13.1: Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries
Purpose of data	To determine the calorific value of wood fuel used in the baseline
Verified value	0.015
Source of value	IPCC default value
Justification	The value is conservative as IPCC values/21/ are prescribed by the applied methodology/5/.

3.7.4. Data/Parameter, Unit: EFb,fuel,CH4**,** tCH4/TJ

CH4 emission factor of the wood fuel

	Discussion and verification assessment
Relevant SDG Indicator	SDG 13: Climate Action Target 13.1: Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries
Purpose of data	Calculation of baseline missions
Verified value	0.0300

Source of value	IPCC Default value
Justification	The value is conservative as IPCC values/21/ are prescribed by the applied methodology/5/.

3.7.5. Data/Parameter, Unit: EFb,fuel, N2O, t N2O /TJ

N2O emission factor of the wood fuel

	Discussion and verification assessment
Relevant SDG Indicator	SDG 13: Climate Action Target 13.1: Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries
Purpose of data	Calculation of baseline missions
Verified value	0.004
Source of value	IPCC Default value
Justification	The value is conservative as IPCC values/21/ are prescribed by the applied methodology/5/.

3.7.6. Data/Parameter, Unit: GWP, Fraction

Global Warming Potential of CH_4

	Discussion and verification assessment
Relevant SDG Indicator	SDG 13: Climate Action Target 13.1: Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries
Purpose of data	Calculation of baseline missions
Verified value	25
Source of value	IPCC Fourth Assessment Report: Climate Change 2007/21/
Justification	The PP has used the value 25 for the period after 1st January 2013. This is in accordance to Gold Standard rule on GWP for project activities.

3.7.7. Data/Parameter, Unit: GWP, Fraction

Global Warming Potential of N_2O

	Discussion and verification assessment
Relevant SDG Indicator	SDG 13: Climate Action Target 13.1: Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries
Purpose of data	Calculation of baseline missions
Verified value	298
Source of value	IPCC Fourth Assessment Report: Climate Change 2007/21/
Justification	The PP has used the value 25 for the period after 1st January 2013. This is in accordance to Gold Standard rule on GWP for project activities.

3.7.8. Data/Parameter, Unit: Cj, %

Expressed as a percentage, this is the portion of users of the project technology j who in the baseline were already consuming safe water without boiling it

	Discussion and verification assessment

Relevant SDG Indicator	SDG 6: Clean Water and Sanitation Target 6.1 : By 2030, achieve universal and equitable access to safe and affordable drinking water for all
Purpose of data	Calculation of baseline missions
Verified value	18% - Households 76% - Institutions and commercial facilities
Source of value	Baseline Surveys
Justification	The value is consistent with Baseline Testing Survey (July 2015) Summary /19/

Opinion:

The default values applied were found to be consistent with the revised PDD and the source.

3.8 Assessment of Data & calculation of GHG Emission Reductions

SDG indicators- Sustainable development indicators/parameters

	SD Parameters identified in the registered VCS PD	**Actual values achieved during this monitoring period**

SDG 3	Reduction in water borne diseases such as skin rash, diarrhoea, foot sores, parasites, eye problems and other water borne diseases, %	BSF: 96.8% HHFF: 100% IHFF: 97.6% The detailed assessment have been explained in above section 3.5 of this report.
SDG 3	Air Quality, % (BSF)	BSF Reduced Smoke levels in the House: Yes = 96.8% No Change = 3.2% Reduced Incidents of Coughing: Yes = 94.8% No Change = 5.2% Reduced incidences of Itchy Eyes: Yes = 93.5% No Change = 6.5%
SDG 3	Air Quality, % (HHFF)	HHFF Reduced Smoke levels in the House Yes = 98.5% No Change = 1.5% Reduced Incidents of Coughing: Yes = 65% No Change = 5% Reduced incidences of Itchy Eyes: Yes = 97.7% No Change = 2.3%
SDG 3	Air Quality, % (IHFF)	IHFF Reduced Smoke levels in the House: Yes = 83.2% No Change = 16.8% Reduced Incidents of Coughing: Yes = 78.4% No Change = 21.6% Reduced incidences of Itchy Eyes: Yes = 82.4% No Change = 17.6%

SDG 6	Number of people attending training/ workshops on maintenance of the water filters, water and sanitation management	9trainings were held as summarised below: • WASHiriki WASH training on 26th - 28th November 2019 at Nyamira, Kenya: 30 participants • Community WASH promotion: 17th - 19th June 2020 at Sotik, Kenya: 18 participants • P&G WASH promotion and training: 11/2/2020 at Kisumu, Kenya: 11 participants • Nyamira WASH learning exchange workshop for NGOs and Ministry of Health: 24/10/2019 at Nyamira, Kenya: 29 participants • Delivering effective wash training workshop: 23rd -26th July 2019 at Kisii, Kenya: 14 participants • Introduction to household water treatment and safe water storage workshop:22nd -23rd October 2019 at Nyamira, Kenya: 16 participants • Community WASH promoters training: 28th -31st October 2019 at Narok, Kenya: 21 participants • Community WASH promoters training, Mwongori-Mogusii: 8th - 10th October 2019 at Kisii, Kenya: 22 participants • Community WASH promoters training-Motiret: 27th -19th October 2019 at Narok, Kenya: 11 participants
SDG 8	Employment wages of people employed by the project	54 people were employed by the project. These included 15 permanent employees at Aqua Clara, 36 people who were employed in the filter distribution program and 3 as enumerators for the monitoring survey exercise. Both women and youth have been employed in this project as evidenced in the employment record and monitoring survey summary. For the filter installers, 12were men and 23 women. Out of the 15 permanent ACI employees, 11 people in total are youths, defined in Kenya as persons under the age of 35 years.

SDG 8	Records of income generated by entrepreneurs enrolled in the project activity distribution programme	36people were employed in the filter distribution program. Each person was paid KShs. 500 for each filter sold. The highest record of filters sold by the employees is 135filters where the employee was paid Kshs. 67,500. While the lowest had sold receiving 1 filter and got Kshs. 500. There are also 15permanent employees working with the project. The employment records have been submitted separately. Total income generated by the employees from filter distribution is KShs. 295,000 while that from the monitoring exercise is Kshs.46,400.
SDG 8	Number of people employed by the project	Both women and youth have been employed in this project as evidenced in the employment record and monitoring survey summary. A total of 36 people was employed in the project including 15 permanent employees at Aqua Clara and 21 people who were employed in the filter distribution program.
SDG 9	Number of people attending training/ workshops on water filters, Number of people	16 people were trained through the trainings. During this monitoring period, there is a total of 16 filter installers (7women and 9men) who are trained on filter assembly, installation and maintenance.
SDG 13	Number of workshops, seminars organized, and training-related opportunities held. Certificates/ training manuals	During the monitoring period, 9 such trainings were conducted.
SDG 13	LEp,y	There are no perceived monitoring requirements for leakage emissions for this project.

Discussion:

The emission reductions for the project activity are calculated based on the data from the survey sheets. The formulae used for the calculations are in line to the revised PDD and in accordance to the applied methodology as checked by the assessment team. The data from the sheets is transferred to the excel sheet and emission reductions are obtained. A brief description on the calculation of emission reductions is as follows:

Baseline emissions

As described in section A3.1 of the Gold Standard methodology, the baseline scenario wood fuel consumption is back calculated by multiplying the safe water consumption of end users observed in the project scenario by the amount of fuel required to boil a specific quantity of water. The equation below therefore draws on this premise to calculate baseline emissions.

$$BE_{b,y} = B_{b,y} * ((f_{NRB,b,y} * EF_{b,fuel,CO2}) + EF_{b,fuel,nonCO2}) * NCV_{b\ fuel}$$

Where

$$B_{b,y} = (1 - C_j) * N_{j,y} * W_{i,y} * (Q_{j,y} + Q_{j,rawboil,y})$$

The baseline emissions per filter has been calculated for each of the filter and checked through the ER sheet (GS 1078- Combined ER and MSS 19-20 tab ER calculation- BSF, HHFF, IHFF)) respectivelyand found reliable and appropriate .

Combined Summary of Baseline emissions in the monitoring period by both BSF, HHFF and IHFF

Period	BSF Total Baseline Emissions (tCO2e)	HHFF Baseline Emissions per filter /year (tCO2e)	IHFF total Baseline Emission Reduction (tCO2e)	Combined Totals
19/02/2019-31/12/2019	9,234	4,567	146	13,947
01/01/2020-18/02/2020	1,431	793	20	2,244
Total	10,665	5,360	166	16,191

Project emissions

Project Emissions are calculated as follows:

$$PE_{p,y} = B_{p,y} * ((f_{NRB,p,y} * EF_{p,fuel,CO2}) + EF_{p,fuel,nonCO2}) * NCV_{p,\ fuel}$$

$$B_{p,y} = (1 - C_j) * N_{p,y} * W_{b,y} * (Q_{p,rawboil,y} + Q_{p,cleanboil,y})$$

The baseline emissions per filter has been calculated for each of the filter and checked through the ER sheet (Combined ER and MSS excel sheet tab ER calculation- IHFF)and found correct**.**

Combined Summary of Project emissions in the monitoring period by both BSF, HHFF and IHFF

Period	BSF Total Project Emissions (tCO_2e)	HHFF project Emissions per filter /year (tCO_2e)	IHFF total projectEmission Reduction (tCO_2e)	Combined Totals
19/02/2019-31/12/2019	0	0	0	0
01/01/2020-18/02/2020	0	0	0	0
Total	0	0	0	0

Leakage:

PP has provided the assessment for leakage, details reasoning provided by PP with the evidences provided therein. Verification team reviewed the leakage assessment provided by PP and reviewed the supporting evidences and concluded that there are no leakage associated with the project activity.

Emission Reductions:

The overall GHG reductions are calculated as follows:

The overall GHG reductions are calculated as follows:

$$ER_y = (\sum BE_{b,y} - \sum PE_{p,y}) * U_{p,y} - \sum LE_{p,y} \quad (13)$$

Where:

$U_{p,y}$	Cumulative usage rate for technologies in project scenario p during year y, based on cumulative installation rate and drop off rate.

BSF:

Emission Reductions 2019 per filter

((5.8288- 0) * 60%)*94.87% - 0= 3.3178 tCO_2e (This figure was then divided by 365 days in a year to get the emission reductions per day).

Emission Reductions 2020 per filter

((5.8288 - 0) *60%)*94.87% - 0= 3.3178 tCO_2e (This figure was then divided by 365 days in a year to get the emission reductions per day).

HHFF

Emission Reductions 2019 per filter

((4.2532- 0) * 68 %)*99% - 0= 2.86323 tCO_2e (This figure was then divided by 365 days in a year to get the emission reductions per day).

Emission Reductions 2020 per filter

((4.2532- 0) * 68%)*99% - 0= 2.86323 tCO_2e (This figure was then divided by 365 days in a year to get the emission reductions per day).

IHFF

Emission Reductions 2019 per filter

The detailed calculations are available in the ERs sheet (IHFF MSS and ERs excel sheet) submitted by the PP which is found correct.

Emission Reductions 2020 per filter

The detailed calculations are available in the ERs sheet (IHFF MSS and ERs excel sheet) submitted by the PP which is found correct.

Combined Summary of Emission Reductions accrued in the monitoring period by both BSF, HHFF and IHFF

Period	BSF total Emission Reduction (tCO2e)	HHFF total Emission Reduction (tCO2e)	IHFF total Emission Reduction (tCO2e)	Combined Totals
19/02/2019-31/12/2019	9,234	4,567	146	13,947
01/01/2020-18/02/2020	1,431	793	20	2,244
Total	**10,665**	**5,360**	**166**	**16,191**

Findings:

CAR 01, CL 01 and CL 03 was raised during the course of verification which was subsequently successfully closed. This is discussed in detail in section 7 of this report.

Opinion:
The verification team confirms that

a) The complete data set for the monitoring parameters was available as mentioned in the monitoring plan in the revised PDD for the duration of 19/02/2019– 18/02/2020.
b) The cross checks were undertaken for all the parameters indicated in the respective sections and were found complying with the requirements of the monitoring plan of the revised PDD;
c) Appropriate methods and formulae for calculating baseline emission, project emissions and leakage have been followed;
d) The claimed emission reductions are free from material errors, omissions or misstatements, with a reasonable level of assurance.

3.9 Quality of Evidence to Determine Emission Reductions

The evidences (Documents/interview/site visit) referred for verification of individual monitoring parameter and fixed parameters are defined section 3.5 and section 3.7 respectively. It can be confirmed by the assessment team that the reported emission reductions have been conservatively calculated. A list of referred documents for verification is also included in section 6 of this report.

3.10 Management System and Quality Assurance

Aqua Clara International has developed GHG emission reduction management system for management of the project. The procedures cover the quality assurance of the monitoring systems for the project activities. The monitoring is in the purview of The Carbon Asset Development, Project Manager, ClimateCare Limited.

Out of the total installed filters, the verification team has chosen a sample size of 24filters. The household sampled in the survey during site visit, were cross verified with the sales record as well as with monitoring survey record to confirm the correctness of the data gathered at the time of survey. The result of verification team's observation based on the chosen sample is found consistent with the sales record. No discrepancy was found during on remote audit. Thus, according to the result of verification team's random sampling as a part of the on-site visit, the water filters were found installed and operating as per PP's sales records.

3.11. Status Of Implementation Of Continuous Input/ Grievance Mechanism &Feedback Received

There is a continuous input/grievance mechanism in place for beneficiaries to be able to give feedback on the project. It was discussed during the remote audit interview, that the Log book/Expression Book is kept in the Aqua Clara International office located at Rigoma (Kisii), which is checked on a regular basis by the field staff.

As confirmed during the remote interview, the grievances/comments of the stakeholders are also invited through the means of telephone to office and also with CDE who installed filter. where a contact person (Josephine Mokeira Orare, Monitoring and Evaluation Officer) has been assigned for the same and emails to the project developer (orarejosephine@yahoo.com) and on contact nos. +254716406687, +254724784897.

During the current monitoring period grievances were recorded using the prescribed format. In this period, a total of 30 grievances were recorded, and all of them were adequately resolved. These issues revolved around the operation and maintenance of the filters and the necessary support was given. There were no other grievances raised from other platforms apart from those included in the logbook.

Grievances record/document/24/ shows that stakeholders have also been provided with the Gold Standard contact which they can use to reach the standard in case of any issues or comments. The email provided for this purpose is info@goldstandard.org.

Further, the grievances record/document/24/ and remote audit interview confirms that-

There is no grievances were raised from previous monitoring required further follow-up.

The project has not had any legal contests or disputes.

The households also confirmed that the field staffs are based close-by the project area, and visit regularly so that face-to-face feedback is also possible.

4. RECOMMEDATIONS / FORWARD ACTION REQUEST

This is the 6thperiodic verification. There is one FAR raised during this monitoring period.

5. VERIFICATION & CERTIFICATION STATEMENT

KBS Certification Services Pvt. Ltd. has been contracted by "ClimateCare Limited"to undertake independent verification and certification for the greenhouse gas (GHG) emission reductions reported from the "Aqua Clara Water Filtration Program in Kenya", GS Id. 1078 for the monitoring period 19/02/2019– 18/02/2020 in the Monitoring Report Version 01 (first version) dated 16/09/2020.

The verification is based on the registered PDD, GS Passport, transition annex and the monitoring report for this project and GS4GG requirements. Our verification approach was based on the requirements as defined under the Kyoto Protocol, Marrakech accord, as well as those defined by the Gold Standard Board.

The management of the "Aqua Clara International" is responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions on the basis set out within the project final Monitoring Report Version 07 dated 25/02/2021. The calculation and determination of GHG emission reductions from the project is the responsibility of the management of the "Aqua Clara International". The development and maintenance of records and reporting procedures are in accordance with the final Monitoring Report Version 07 dated 25/02/2021.

It is our responsibility to express an independent GHG verification opinion on the GHG emissions and on the calculation of GHG emission reductions and SDGs from the project for the monitoring period 19/02/2019– 18/02/2020 based on the reported emission reductions in the final Monitoring Report Version 07 dated 25/02/2021 for the same period.

Based on an understanding of the risks associated with reporting GHG emissions data and the controls in place to mitigate these, KBS planned and performed our work to obtain the information and explanations that we considered necessary to provide sufficient evidence for us to give reasonable assurance that this reported amount of GHG emission reductions for the period is fairly stated.

KBS confirms the following;

Reporting period: From 19/02/2019– 18/02/2020 (Including both the days)

Verified and certified emission in the above reporting period:

Period	**BSF**	**HFF**	**IHFF**
From 19/2/2019-31/12/2019	9,234	4,567	146
From 1/1/2020-18/2/2020	1,431	793	20
Total Emission Reduction (tCO_2e)	**16,191**		

Location: Faridabad

Date: 26/02/2021

Kaushal Goyal

Managing Director

KBS Certification Services Pvt. Ltd.

6. REFERENCES

S.No.	Name of the document	
/1/	Revised Project Design Document (Version 24, dated 25/05/2016)	
/2/	Design Change Assessment Report issued by Carbon Check India Private Limited (Revision no. 7, dated 31/05/2016)	
/3/	Revised Gold standard passport (Version: 10, dated: 4/4/2016) Transition Annex approved by the Gold Standard	
/4/	Monitoring report version 01, dated 26/09/2020	
	Monitoring report version 07, dated 25/02/2021(final)	
/5/	GS methodology: Technologies and Practices to Displace Decentralized Thermal Energy Consumption (Version 1.0; Dated 11/04/2011)	
/6/	Emission Reduction (ER) Sheets	
	/6.1/	ER Sheets corresponding to version 01
	/6.2/	ER Sheets corresponding to final version
/7/	Worksheets	
	/7.1/	Monitoring Survey Excel sheet records
	/7.2/	TSR and sample frame spreadsheets
/8/	Gold Standard for Global Goals requirements	
/9/	CDM Validation and Verification Standard version 02.0	
/10/	Aqua Clara International: total sales record for the filters sold till the end of this monitoring period i.e. 18/02/2020	
/11/	ACF: Monitoring Survey Template and Filled forms	
/12/	VER right transfer sheets	
/13/	Sampling and surveys for CDM project activities and programme of activities version 05.0	
/14/	Training issued by Aqua Clara International Employment/Income Records including the wages provided to the staff	
/15/	Laboratory test results for the water samples collected from the surveyed households	
/16/	3M Petri film Instructions manual	
/17/	Technical specification of the water filters	
/18/	GS clarification/approval regarding delaying the annual monitoring dated 25/06/2020	
/19/	Baseline Testing Survey Summary pertaining to third monitoring period.	
/20/	Default values of fraction of non-renewable biomass http://cdm.unfccc.int/DNA/fNRB/index.html	
/21/	IPCC Fourth Assessment Report: Climate Change 2007 http://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html	
/22/	Gold Standard Registry project webpage: 3. https://registry.goldstandard.org/projects/details/59	
/23/	Gold Standard Foundation: http://www.goldstandard.org	
/24/	Grievance log book records for 2019-2020	

7. FINDINGS DOCUMENT

Summary of findings	CAR	CL	FAR From Previous Verification/PRC
	01	04	2

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

Date	Type & Number	Raised by	Reference
25/09/2020	FAR 01	Assessment team	GS approved deviation
Non conformities raised			
IHFF forms are filed together with all the others – BSF and HHFF. This makes VVB auditing problematic.			
Project Participant's response	**Date:***29/09/2020*		
The PP would like to clarify that there are three project technologies which includes BSF (for households and institutional use), the HHFF (for households) and IHFF (for institutions). The BSF filters used by institutions such as schools are not considered differently as in the case of the Hollow Fiber technology. This is because most of these filters are used by households living in the institutions and therefore the mode of use is largely domestic. For IHFF, these are strictly for institutions and the data for these has been analyzed separately. Please check tabs with IHFF on the combined MSS and ER spreadsheet.			
Documentation Provided as Evidence by Project Participant			
Please mention the document provided to KBS along with the above response			
Information Verified by Team Leader	**Date of review:** 30/09/2020		
The provided response reviewed.			
Reasoning for not acceptance or close out			
The provided response this irrelevant to the sought findings. Further, the action is not traceable.			
Date of acceptance or non- acceptance	**Date:** 30/09/2020	Status: *Open*	
Project Participant's response	**Date:***08/10/2020*		
The PP would like to clarify that as explained under the FAR 01 in the monitoring report, WCFT which is conducted to monitor the times of water filtration and amount of water filtered. As per the deviation request, PP was granted an exemption to conduct WCFT during this monitoring period and therefore this FAR could not be assessed. Since WCFT is a biennially monitored parameter, the values applied during the last verification were from the 2017/2018 verification. PP has provided the 2017/2018 database that shows the WCFT results. Please refer to tabs Qp,y-IHFF, Qp,y-HHFF and QP,y BSF. Further in compliance with the deviation approval, the Qp,y for BSF and HHFF is capped at 4l/p/d while that for institution the Qp,y is 0.87l/p/d which is conservative. WCFT shall be conducted within 6 months after the end of the interim period which is 31/12/2020 and it is only during the WCFT that the FAR can be assessed. PP has also the Total sales records for each technology (BSF, HHFF and IHFF). For easy identification, each filter is assigned a unique serial number where the HHFF models include KS, HF10, HF10P and HF15P. The IHFF models are HF100, HF10, HF15P.			
Documentation Provided as Evidence by Project Participant			
GS 1078 Combined ER and MSS Sheet 2017/2018 *TSR and sample frame*			
Information Verified by Team Leader	**Date of review:** 13/10/2020		
The document/record keeping have been verified during the skype call remote interview and now found that forms have been now separately filed for all filter technologies.			
Reasoning for not acceptance or close out			
The record/document keeping system is now improved for transparency. Thus, now easy distinction for each filter technology distributed under the project is traceable.			
Date of acceptance or non- acceptance	**Date:** 13/10/2020	Status: Status: *Closed.*	

Date	Type & Number	Raised by	Reference
25/09/2020	FAR 02	Assessment team	GS approved deviation
Non conformities raised			
This makes VVB auditing problematic. After data is entered in soft copy by a senior monitoring and evaluation officer. As part of the QA/QC procedures, the PP is requested to ensure that follow-up sample checks for any errors are carried out			
Project Participant's response	**Date:** *29/09/2020*		
PP has revised the section and included more information. PP has also renamed the audio recordings for easy verification. There are 2 audio recordings from IHFF and 2 from HHFF technologies from the end-users interviewed.			
Documentation Provided as Evidence by Project Participant			
• *Renamed audio recordings*			
Information Verified by Team Leader	**Date of review:** 30/09/2020		
The response and provided audio recordings have been reviewed.			
Reasoning for not acceptance or close out			
The response is inadequate to the findings.			
Date of acceptance or non- acceptance	**Date:** 30/09/2020	Status: ***Open***	
Project Participant's response	**Date:***08/10/2020*		
The PP would like to clarify that the FAR 01 was raised by the GS because previously before commencing the physical visits for the monitoring surveys, the PD usually calls the households in advance to notify them of the forthcoming monitoring exercise and plan for the days they would be monitored. The GS during the last verification indicated that this exercise would lead to some sort of bias if the PD predetermined that some filters were not functional during the pre-visit calls, leading to those households not being monitored. It is for this reason that the PP was required to submit the pre-visit questionnaire as evidence that the operational status of the filter was not identified prior to the survey. PP has prepared a template to be used for the pre-visit call (see provided evidence) and this has been supplied to the PD for use in the next verification. It can be confirmed that there is no question that asks on the operational status of the filter. However, since physical surveys were not made during this monitoring period, there was no need for the PD to conduct pre-visit calls to households. The enumerators contacted the households on the same day that the surveys were done, and the operation status of the filter was not determined prior to the interview. PP is to the opinion that this FAR can only be satisfactorily fulfilled during the next verification when PD will conduct physical visit to households which would require making the pre-visit calls. As a QA/QC procedure, the filled questionnaires will be provided as supporting evidence. This will make it possible to verify the monitoring data and evaluate whether both households with functional and non-functional filters were given equal opportunity to participate in the surveys without bias.			
Documentation Provided as Evidence by Project Participant			
GS 1078 Survey Pre-visit questionnaire			
Information Verified by Team Leader	**Date of review:** 13/10/2020		
PP have now confirmed during remote interview on skype that as a QA/QC procedure they randomly verify monitoring data from excel sheet(soft copy) with actual document/records to ensure the consistency of the information.			
Reasoning for not acceptancle or close out			
The explained QA/QC procedure found appropriate.			
Date of acceptance or non- acceptance	**Date:** 13/10/2020	Status: Status: *Closed*	

Date	Type & Number	Raised by	Reference
25/09/2020	FAR 03	Assessment team	GS performance review
Non conformities raised			
The PP shall monitor the times of water filtration and amount of filled water per day to cross-check with the total water demand from households.			

Project Participant's response	**Date:***26/09/2020*
The PP sought a deviation request from the GS to be exempted from conducting water consumption field tests which monitors the times of water filtration and amount of water filtered, during this monitoring period due to the restrictions imposed by COVID-19. The deviation request was approved by the GS on 25/06/2020. In accordance with the guidelines issued by the GS in the deviation approval, PP was not required to carry out any WCFT sand was allowed to apply methodology defaults as follows for the parameter "Quantity of safe water in litres supplied by project technology per person per day". Full-day premises (households): • If monitored water consumption values in previous MP is greater than 7 l/p/d, the PD shall apply the cap of 7 l/p/d • If monitored water consumption values in previous MP is between 4l/p/d and 7 l/p/d, the PD shall apply the default value of 4l/p/d • If monitored water consumption values in the previous MP results establish a value less than 4l/p/d, the previous MP result shall be used. • For projects that are requesting performance certification for their first MP, the default value of 4l/p/d for water consumption shall be applied. Half-day premises (e.g. schools) if applicable: • If monitored water consumption values in previous MP is greater than 5.5 l/p/d, the PD shall apply the cap of 5.5 l/p/d • If monitored water consumption values in previous MP is between 3l/p/d and 5.5 l/p/d, the PD shall apply the default value of 3 l/p/d • If monitored water consumption values in the previous MP results establish a value less than 3 l/p/d, the previous MP result shall be used. • For projects that are requesting performance certification for their first MP, the default value of 3l/p/d for water consumption shall be applied. PP did not conduct WCFT during this monitoring period, and therefore PP could not monitor the times of water filtration and amount of filled water per day to cross-check with the total water demand from households. PP has followed the GS guidelines outlined as detailed under section C of this monitoring report. As outlined in the deviation request, PP is required to carry out a WCFT per the approved monitoring plan within six months of end of the interim measure validity date or earlier, where possible. Based on these requirement, the Qp,y for BSF and HHFF in the last verification was 6.56 l/p/d and 5.53l/p/d respectively, and therefore a value of 4l/p/d has been applied during this monitoring period which is conservative. For IHFF technology, the value from the last verification was 0.87l/p/d and this value has been applied for this monitoring period.	
Documentation Provided as Evidence by Project Participant	
Revised MR	
Information Verified by Team Leader	**Date of review:** *29/09/2020*
PP have provided GS deviation approval document and revised MR.	
Reasoning for not acceptance or close out	
The provided response have been checked and found that PP have applied conservative values for the parameter during the current monitoring period inline with GS deviation approval. However, the FAR have been closed subject to closure of FAR raised during this verification.	
Date of acceptance or non- acceptance	**Date:***30/09/2020* Status: ***Closed***

Date	**Type & Number**	**Raised by**	**Reference**
25/09/2020	FAR 04	Assessment team	GS performance review
Non conformities raised			

The PP shall monitor the times of water filtration and amount of filled water per day to cross-check with the total water demand from households. The PP shall submit the phone questionnaires and shall not ask about the operation status of the filter prior to usage survey site visit to avoid the bias of not visiting the non-users	
Project Participant's response	**Date:***26/09/2020*
The PP sought a deviation request from the GS to be allowed to carry out remote (non-physical) surveys due to the restrictions imposed by COVID-19. The deviation request was approved by the GS on 25/06/2020.The phone questionnaires are used during pre-visit calls which are usually made during physical surveys to notify the households of the forthcoming survey exercise. During this monitoring period, the PP has conducted all the surveys remotely via telephone and therefore no physical surveys were made to households. Based on this, the PP did not require to make pre-visit calls and the operation status of the filter was not asked prior to the remote surveys. The enumerators would call the households on the day of the survey and if the household was not available for the interview at that time, the enumerator would schedule an appropriate time for the survey. This has ensured that there was no form of bias when conducting the surveys among the end-users. The remote surveys were done using the standard monitoring survey templates prepared by the PP and which has been provided as a support document. As indicated in the monitoring survey summary database, all the remote surveys were undertaken between 15/07/2020 to 24/08/2020. However, in compliance with this requirement, PP has prepared a template for the remote survey and shared the same with the PD. The pre-visit questionnaire shall be used when making the pre-visit calls prior to the physical surveys during the next verification. PP has provided the "*GS 1078 Survey Pre-visit questionnaire*" as a support document.	
Documentation Provided as Evidence by Project Participant	
Revised MR, sample pre-visit questionnaire, remote survey telephonic call records.	
Information Verified by Team Leader	**Date of review:** *30/09/2020*
The provided sample pre-visit questionnaire have been checked and found appropriate.	
Reasoning for not acceptance or close out	
The provided justification have been cross verified through remote survey call recording and further through the telephonic interview with PP representative and found appropriate. The use of pre-visit questionnaire during physical survey during the next verification needs to be verified by next periodic verification VVB. However, the FAR have been considered closed subject to closure of FAR raised during this verification.	
Date of acceptance or non- acceptance	**Date:***30/09/2020* Status: ***Closed***

Date	**Type & Number**	**Raised by**	**Reference**
25/09/2020	FAR 05	Assessment team	GS performance review
Non conformities raised			
The PP shall monitor the average number of filters in the households and discount in the ER calculation if the households use more than one unit.			
Project Participant's response		**Date:***26/09/2020*	

The PP monitored the average number of filters in the households and would like to make the following clarifications:

BSF Technology

On the BSF technology, there are 45 households who were found to have similar names, but these are completely different end-users in different locations and have different contact details as listed below. Therefore, these filters have all been included in the ER calculation.

1. KB8-002 and B15-229
2. ED4-43 and KF7-7
3. ED10-12 and ED8-19
4. KF7-5 and KF3-37
5. KD2-2 and PB307
6. PB308 and KB8-004
7. KG5-47 and KB11-007
8. KB7-008 and KB2-69
9. ED13-25 and KF6-10
10. ED5-39 and ED7-16
11. KD3-20 and B15-104
12. ED5-36 and EE2-32
13. KB10-8, KB2-128 and KB5-100
14. KF18-2 and KB6-29
15. KD1-2 and KE2-71
16. ED13-10 and KF16-85
17. KB2-22 and KB2-189
18. KF6-6 and KF3-25
19. ED11-28 and ED5-57
20. ED6-45 and ED2-131
21. KF18-128 and KE3-196
22. ED5-93 and ED5-17

There are 14 filters registered under the same end-user name but located in totally different locations as summarized below. PP has included these in the ER calculations.

1. PB334 and PB394
2. ER-70 and ER-49
3. KF2-30 and KF2-29
4. KE2-46 and KF1-19
5. KE2-39 and KE2-11
6. PB303 and PB397
7. PB165 and PB209

There are 73 BSF filters that are registered under the same end user and the same location details were provided. Most of these filters were purchased on behalf of other especially elderly parents and the registration details given are for the person who purchased. This was done where the filter beneficiary did not have a telephone in order to enhance traceability during monitoring. Also, there are instances where men who have more than one household purchased a filter for each of their households. Due to cultural considerations, these filters were registered under the person who purchased but are used in the different households. However, the PP has discounted the 37 filters from all the households with 2 or more filters and has just retained just one filter from these households in the ER calculations.

All the BSF filters installed in schools have been included in the ER calculation. The PP was able to confirm that due to the population of these institutions, most of them have more than one filter and these are all used in order to cater for their safe water demand. This data is provided in the BSF TSR and Sample Frame, tab Final TSR. PP have used different colour codes for these households for easy differentiation.

HHFF technology

There are 34 HHFF filters in the TSR whose end-user names are similar, but these are completely different end-users with different filter locations and contact details as detailed below. PP has included these filters in the ER calculations.

- HF15P-2734, HF15P-2097 and HF15P-1866
- HF15P-2315 and HF15P-2757
- HF15P-2694 and HF15P-1823
- KS-19 and HF15P-2612
- HF15P-035 and HF15P-726
- HF15P-241 and HF15P-1927
- HF15P-493 and HF15P-1853
- HF15P-731 and HF15P-955
- HF15P-1220 and HF15P-1556
- HF15P-1495 and HF15P-1573
- HF15P-1764 and HF10P-95
- HF15P-2044 and HF15P-3019
- HF15P-2201 and HF15P-1901
- HF15P-1902 and HF15P-1983
- HF15P-1324 and HF15P-2086
- HF15P-2560 and HF15P-2400

There are 22 HHFF filter in the TSR which are registered under the same end-users, but these are installed in different locations as detailed below. PP has included these in the ER calculations.

- HF15P-3252 and HF15P-3075
- HF15P-3251 and HF15P-3253
- HF15P-2962 and HF15P-397
- HF15P-2144 and HF15P-1718
- HF15P-154 andHF15P-2167
- HF15P-673 and HF15P-678
- HF15P-1019 and HF15P-1618
- HF15P-1811 and HF15P-1847
- HF15P-1347 and HF15P-1348
- HF15P-2560, HF15P-2400 and HF15P-3040
- HF15P-2770 and HF15P-2767

There are 58 HHFF filters registered under the same end users and similar location details. The PP has retained just one filter in the ER calculations from all the households with 2 or more filters. PP has discounted these 58 filters from the ER calculations. This data is provided in the HHF TSR and Sample Frame, tab Final TSR. PP have used different colour codes for these households for easy differentiation.

Documentation Provided as Evidence by Project Participant	
Revised MR, TSR Sample frame sheet for each type of filter (i.e. BSF, HHFF, IHFF), Revised ER calculation sheet	
Information Verified by Team Leader	**Date of review:** *30/09/2020*
The provided response, revised MR, updated TSR Sample frame sheets for each type of filter and revised ER calculation sheet have been checked and found appropriate. No household/end users with multiple no. of filters have been observed in the updated TSR sample frame sheet for each type of filter.	
Reasoning for not acceptance or close out	

The provided response, revised MR, updated TSR Sample frame sheets for each type of filter and revised ER calculation sheet have been checked and found appropriate. The given filter details in the above response have been checked and found that, though the end user name is same but the rest of details are totally different like locations and contact details are different. Thus, claim made by PP is found justified. However, the FAR have been considered closed subject to closure of FAR raised during this verification.		
Date of acceptance or non- acceptance	**Date:***30/09/2020*	Status: ***Closed***

Table 2.CAR from this verification

Date	**Type & Number**	**Raised by**	**Reference**
25/09/2020	CAR 01	Assessment team	NA
Non conformities raised			
The title page formatting for information mentioned regarding **Estimated amount of annual average certified SDG impact (as per approved PDD)** and title of sections of MR version 01, is inconsistent with GS4GG MR template, version 1.0.			
Project Participant's response	**Date:***29/09/2020*		
PP has amended the format and is now consistent with the GS4GG MR template.			
Documentation Provided as Evidence by Project Participant			
Revised monitoring report.			
Information Verified by Team Leader	**Date of review:** 30/09/2020		
Revised MR version 2.0 and GS4GG MR template, version 1.0			
Reasoning for not acceptancle or close out			
The referred amended formatting in the submitted MR version 2.0 regarding **Estimated amount of annual average certified SDG impact (as per approved PDD) ;** and **Total amount of certified SDG impact (as per approved methodology) achieved in this monitoring period**is yet to revised. Further, the sub section numbers under section F is inconsistent with GS4GG MR template. **Thus, this CAR 01 is kept open.**			
Date of acceptance or non- acceptance	**Date:** 30/09/2020	Status: ***Open***	
Project Participant's response	**Date:***08/10/2020*		
PP has revised the formatting and has removed the tables that had been inserted and have now used the word format which is consistent with the GS4GG template. PP would like to clarify that the as required by the GS, all the SDG outcomes should appear on the title page. Since the project has different technologies, including all the outcomes leads to the table flowing to other pages but the set GS text and formatting requirements have been maintained.			
Documentation Provided as Evidence by Project Participant			
Revised MR V.3			
Information Verified by Team Leader	**Date of review:** 13/10/2020		
The revised MR version 03.0			
Reasoning for not acceptancle or close out			
In the revised MR, version 03, the title page table formatting and section numbers under section F have been checked and found consistent with GS4GG MR template.			
Date of acceptance or non- acceptance	**Date:** 13/10/2020	Status: Status: *Closed*	

Table 3.CLfrom this verification

Date	**Type & Number**	**Raised by**	**Reference**
25/09/2020	CL 01	Assessment team	MR
Non conformities raised			

1. The monitoring period mentioned on the title page is inconsistent throughout the MR and provided supportive ER calculation excel sheet. 2. In the section 2.1 of the MR, the deviation listed regarding Water Consumption Field Tests is inconsistent with the referred GS approval dated 25/06/2020. 3. The authenticity and reliability of the provided normal PDF files (without letterhead, sign, stamps) regarding Employment records, Enumerator's employment records, sales per sales agents, training records is inadequate.		
Project Participant's response	**Date:***29/09/2020*	
1. PP has amended the MP mentioned on the title page and is now consistent throughout the MR. *2. The PP has amended the section and is now consistent with the GS deviation request approval.* *3. PP has provided revised signed and stamped copies of Employment records, Enumerator's employment records, sales per sales agents and training records in the ACI letterhead.*		
Documentation Provided as Evidence by Project Participant		
1. Monitoring report version 2 *2. Revised Employment records, Enumerator's employment records, sales per sales agents* and *training records.*		
Information Verified by Team Leader	**Date of review:** 30/09/2020	
1. Now the monitoring period is consistently mentioned in the revised monitoring report, version 2 and supportive ER calculation sheet. 2. Now the information on water consumption field test in the section 2.1 of the MR, version 2 is found consistent with the referred GS approval dated 25/06/2020. 3. PP Has now provided the revised signed and stamped copies of Employment records, Enumerator's employment records, sales per sales agents and training records in the ACI letterhead. The same have been checked and found reliable appropriate.		
Reasoning for not acceptance or close out		
NA		
Date of acceptance or non- acceptance	**Date:** 30/09/2020	Status: ***Closed.***

Date	**Type & Number**	**Raised by**	**Reference**
25/09/2020	CL 02	Assessment team	Section D.2 of MR
Non conformities raised			
1. In the section D.2 of the MR and ER calculation sheet, data/parameter for the parameter; "Number of persons consuming water supplied by project scenario p through year y" is inconsistent with registered PDD. 2. The data/parameter for "Number of persons consuming safe water" is inconsistent throughout the MR. 3. In the section D.2 of MR, the data/parameter for "Wages of the entrepreneurs employed by the project" is inconsistent with registered PDD. 4. The information in the additional comments for the parameter "Volume of safe water consumed in the project scenario" is inconsistent with GS deviation approval and values mentioned for this parameter. 5. In the section D.2 of the MR, the monitoring parameter Bb,y is not mentioned as defined in the registered PDD.			
Project Participant's response	**Date:***29/09/2020*		

1.PP has corrected the data/parameter in the ER spreadsheet and MR and is now consistent.
2. PP has corrected the data/parameter and is now consistent.
3. PP has corrected the parameter and is now consistent
4. The PP has amended the comment and is now consistent with the GS deviation approval.
5. PP has provided the correct definition and has added the parameter in the monitoring plan.

Documentation Provided as Evidence by Project Participant		
1. Revised monitoring report version 2 *2. Revised ER calculation sheet version 2.*		
Information Verified by Team Leader	**Date of review:** 30/09/2020	
1. Revised MR and ER spreadsheet have been checked. However, in the section E.1 of the MR version 02 and in the provided ER sheet version 2 still the data /parameter mentioned is inconsistent with registered PDD. **Thus, this part of CL is kept open.** 2. The Revised MR version 2 and ER spreadsheet version 2 have been checked. However, in the section E.1 of the MR version 02 and in the provided ER sheet version 2 still the data /parameter is shown inconsistent as Nj and Np,y. **Thus, this part of CL is kept open.** 3. The defined data/parameter for the referred description, "Wages of the entrepreneurs employed by the project" in the revised MR version 2 is still inconsistent with the final monitoring report and Final Verification Report for the previous monitoring period number 5. **Thus, this part of CL is kept open.** 4. PP have now incorporated information on volume of water consumption in the additional comments. The same have been checked and found consistent with referred approved GS deviation for the current monitoring period. **Thus, this part of CL is closed.** 5. PP have now incorporated the parameter Bb,y consistent with the registered PDD, in the section D.2 of the revised MR version 2. **Thus, this part of CL is closed.**		
Reasoning for not acceptance or close out		
The mentioned corrections in response are not traceable and appropriate.		
Date of acceptance or non- acceptance	**Date:** 30/09/2020	Status: ***Open***
Project Participant's response	**Date:***08/10/2020*	
1. The PP has revised the description for this parameter across the MR and has maintained consistency with the registered PDD and applicable methodology. 2. The PP has revised the description for this parameter across the MR and has maintained consistency with the registered PDD and applicable methodology. PP would further like to clarify that as provided for in the methodology and the registered PDD, parameters Nj,y and Np,y are used interchangeably for baseline emission calculations and project emission calculations respectively. The parameter N is for the average number of people in the households. 3. PP has amended the description for "Wages of the entrepreneurs employed by the project parameter and its now consistent with the approved transition PDD. PP would like to clarify that an error was made in the last MR where the description is given as "Number of men and women employed by the project". The correct description as per the transition annex is "This parameter will be collected to indicate the project provides decent work for all men and women".		
Documentation Provided as Evidence by Project Participant		
Revised MR version 3 *ER spreadsheet version 3* *Transition annex*		
Information Verified by Team Leader	**Date of review:** 13/10/2020	
Revised MR, version 03 and revised ER calculation sheet		
Reasoning for not acceptance or close out		

1. The information in the revised MR version 03 on data/parameter for the parameter; "Number of persons consuming water supplied by project scenario p through year y" is now found consistent throughout the MR with transition annex and PDD. Thus, part of CL is closed. 2. PP have now clarified that difference in the data/parameter is due to baseline emission and project emission representation. The provided clarification regarding interchangeably use of the data/parameter for "Number of persons consuming safe water" is found appropriate. Thus, part of CL is closed. 3. Now, the description for "Wages of the entrepreneurs employed by the project" parameter throughout the revised MR version 03 now consistent with the provided approved GS4GG Transition annex. Hence this part of CL is closed.		
Date of acceptance or non- acceptance	**Date:** 13/10/2020	Status: ***Closed.***

Date	**Type & Number**	**Raised by**	**Reference**
25/09/2020	CL 03	Assessment team	ER calculation sheet
Non conformities raised			
Emission reductions calculation excel sheet, following clarification are sought. i. Ex-ante ERs calculations spreadsheet, the baseline emission factor in the cell A2 has circular reference to one climatecare sharepoint excel sheet which gives error while opening ER calculation sheet. ii. In the BSF 2019 excel spreadsheet under cell B52, PP mentioned $U_{p,y}$ (usage survey), however, $U_{P,y}$ is usage rate. Further, in the cell C17 value for $NCV_{b,fuel}$ have been sourced from circular reference excel sheet. iii. The value of $U_{P,y}$ for year 2019 of HHFF is inconsistent with corresponding spreadsheet iv. The values mentioned under "Main type of fuel used" in the BSF sustainable development spreadsheet, HHFF sustainable development spreadsheet, IHFF sustainable development spreadsheet is inconsistent with corresponding BSF/HHFF/IHFF project survey sheet. v. In the cell B64 of the spreadsheet titled "HHFF Ers 2020" the year is mentioned as 2019. vi. For QP,y parameter the cell F1 of "ER Calculations IHFF" spreadsheet refers to 2017/2018 data. Further, in the same spreadsheet, cell L1 mentioned Up,y (usage survey). vii. In the value cell C5 for Np,y parameter in the "BE_person_day_IHFF" spreadsheet is inconsistent with actual monitoring survey summary for the current monitoring period. viii. The values mentioned in the cell H127 for Nj parameter in the "ER Calculations IHFF" spreadsheet is inconsistent with values for the parameters referred in the "BE_person_day_IHFF" spreadsheet. ix. The values for SD indicators (Reduced Smoke Levels, Air quality Parameters) is inconsistent with corresponding survey database. x. For IHFF spreadsheet, the project emission calculation is missing in the referred ER calculation sheet.		
Project Participant's response	**Date:***29/09/2020*		

i. *PP has removed the circular reference from the excel sheet.*
ii. *PP has amended the description to usage rate as required and has removed the circular reference on parameter $NCV_{b,fuel}$.*
iii. *PP has rectified the usage rate which should be 83.92%.*
iv. *The PP would like to clarify that the analysis of the main type of fuel used under project survey tabs is in reference to the time before the households started using the filters i.e. baseline scenario. The main type of fuel under the sustainable development assessment is in reference to the current project scenario after the households started using the filter. As such, there are differences that have taken place and the data between the project survey and SD assessment is not similar as some changes have taken place. This also applies for the other parameters assessed under project survey such as main source of water and main water treatment methods.*
v. *The PP has corrected the year to 2020 and is now consistent.*
vi. *PP has amended the year to 2019/2020 and has corrected the description of Up,y to "usage rate" which is now consistent.*
vii. *The PP would like to clarify that parameter Np,y is calculated separately for each institution due to varying number of days of operation of the institutions in order to be conservative. These calculations are provided in Column I of the ER calculations spreadsheet, tab "ER calculations IHFF".*
viii. *PP has corrected the value and is now consistent. PP would further like to clarify that since the Np,y value for institutions is calculated separately for each institution. For IHFF, tab BE_Person_day_IHFF, a value of 1 is applied for parameters N and Np,y but this has not been applied in the ER calculations. The values for these parameters are included in Column H and K respectively, of the ER calculation IHFF sheet.*
ix. PP has cross checked the data and has amended the error in the MR and the data is now consistent with the spreadsheet.
x. The project emission calculations have been done separately for each institution. Please see column K of the ER Calculation IHFF sheet which provides the detailed calculations.

Documentation Provided as Evidence by Project Participant

1. *Combined MSS and ER calculation version 2.*
2. *Revised MR*

Information Verified by Team Leader	**Date of review:** 30/09/2020	
PP have now provided revised consolidated ER sheet, the same have been reviewed.		
Reasoning for not acceptance or close out		
Now the calculations are not traceable and reliable. Thus, the findings response and corrections cannot be assessed. **Thus, the CL is kept open.**		
Date of acceptance or non- acceptance	**Date:** 30/09/2020	Status: ***Open***
Project Participant's response	**Date:***08/10/2020*	

i. The PP has provided the design change emissions reductions calculations spreadsheet from where the ex-ante ER Calculations parameter values are sourced.
vii. The PP has corrected the value. As explained earlier the NP,y for institutions is calculated individually for each institution due to varying days of operation

Documentation Provided as Evidence by Project Participant

GS 1078 Design Change Emission Reduction Calculations Spreadsheet 2016 05
ER spreadsheet v.3

Information Verified by Team Leader	**Date of review:** 13/10/2020

i. Now, PP have removed the circular reference of some other database excel sheet from the cell A2 under the Ex-ante ERs calculations spreadsheet. The same have been checked and found appropriate. Thus, this part of CL is closed. ii. PP have now corrected the required corrections for $U_{p,y}$ and $NCVb_{,fuel}$ in the revised ER calculation sheet. Thus, this part of CL is closed. iii. PP have now revised the $U_{p,y}$ for the year 2019 HHFF for consistency with referred survey sheet. Thus, this part of CL is closed. iv. Now, PP have revised the calculation regarding, "Main type of fuel used" under sustainable development monitoring sheet for each respective filter type (i.e.BSF, HHFF, IHFF). The same have been checked and found consistent with SD survey. Thus, this part of CL is closed. v. Now, the year value have been updated in cell B64 of of the spreadsheet titled "HHFF Ers 2020". Thus, this part of CL is closed. vi. Now, the title in cell F1 and L1 have been corrected for consistency. The same have been checked and found appropriate. Thus, this part of CL is closed. vii. Now, PP have revised the value in the cell C5 for Np,y parameter in the "BE_person_day_IHFF" spreadsheet. The same have been checked and found consistent with actual monitoring survey summary for the current monitoring period. Thus, this part of CL is closed. viii. The values in the cell H127 for Nj in the "ER Calculations IHFF" spreadsheet is now consistent with "BE_person_day_IHFF" spreadsheet. Thus, this part of CL is closed. ix. PP have provided the clarification and now the SD indicators values are consistent with corresponding SD indicator monitoring database. Thus, this part of CL is closed. x. PP have now provided project emission calculations for each institution under column K of the ER Calculation IHFF sheet. The same have been checked and found appropriate. Thus, this part of CL is closed.		
Reasoning for not acceptance or close out		
Revised ER calculation sheet version 03 have been checked and all corrections found appropriate.		
Date of acceptance or non- acceptance	**Date:**13/10/2020	Status: ***Closed***

Date	**Type & Number**	**Raised by**	**Reference**
25/09/2020	CL#04	Assessment team	Verification Protocol
Non conformities raised			
PP has reported that they have not undertaken the onsite samples for the monitored parameters user usage rate and water quality based on the GS granted deviation. However, it is not clear from the MR, what confidence/precession PP achieved during remote surveys for each monitoring parameter and how it is meeting the sampling requirements of GS methodology.			
Project Participant's response		**Date:***29/09/2020*	
The PP has provided detailed clarification in section D.2 and D.3 of the MR as required.			
1. Revised Monitoring report			
Information Verified by Team Leader		**Date of review:**	
PP have now incorporated detailed sampling approach/plan adopted for each monitoring parameter in the section D.2 and section D.3 of the revised MR version 2. The same have been cross verified with referred applied methodology.			
Reasoning for not acceptance or close out			
PP have not provide detailed sampling calculation for the current monitoring period.			
Date of acceptance or non- acceptance		**Date:** 30/09/2020	Status: ***Open***
Project Participant's response		**Date:***08/10/2020*	

PP had provided the detailed sampling frame spreadsheets for this monitoring period in the TSR and sample frame folder provided. The sample frame calculation is contained under each vintage year included. PP has provided the same data for reference and can confirm that the data is consistent with the procedure and data provided in section D.3 of the monitoring report. For further clarification, the GS deviation approval required a minimum sample of 40 or more for each vintage year. PP randomly selected 50 households from each vintage with more than 90 households, while for those between 40 and 90 households, a sample size of 40 was selected. For vintages with households below 40, all the households were included in the sample frame. The extra number was meant to cater for those households who could not be reached for the surveys to ensure the sample size does not fall below the required 40. Detailed explanation is provided in section D.3 (3) of the MR.		
Documentation Provided as Evidence by Project Participant		
BSF TSR and sample frame final *HHFF TSR and sample frame final* *IHFF TSR and sample frame final*		
Information Verified by Team Leader	**Date of review:** 13/10/2020	
The provided TSR and sample frame spreadsheet for each type of filter and justification in the MR have been checked and found appropriate. Thus, CL is closed.		
Reasoning for not acceptance or close out		
Date of acceptance or non- acceptance	**Date:**13/10/2020	Status: ***Closed***

Table 4.FAR from this verification

Date	**Type & Number**	**Raised by**	**Reference**
25/09/2020	FAR 01	Assessment team	GS deviation approval
Non conformities raised			
Usage Survey: As during this monitoring period monitoring is done as per GS approved deviation for the subsequent verification audit, the VVB shall ensure that atleast some of the samples selected for the on-site visit include those samples that have been remotely monitored by the PD. Further, the compliance/fulfilment of clouse assessment of above FAR 03, 04 and 05 from previous verification.			
Project Participant's response	**Date:***29/09/2020*		
PP takes note of this requirement and will liaise with the VVB in the next verification to ensure that the samples selected for the next monitoring period on-site visit include those samples that have been remotely monitored by the PD during the current monitoring period .			
Documentation Provided as Evidence by Project Participant			
Please mention the document provided to KBS along with the above response			
Information Verified by Team Leader	**Date of review:** 30/09/2020		
PP response have been assessed and verified during remote interview of PP representative.			
Reasoning for not acceptance or close out			
To be checked during next periodic verification by the VVB.			
Date of acceptance or non- acceptance	**Date:**30/09/2020	Status: ***Open***	

8. CERTIFICATE OF COMPETENCE

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

Personnel Name:		**Sanjay Kandari**	
Qualified to work as:			
Team Leader	☒	Technical Expert	☒
Validator/Verifier	☒	Financial Expert	☒
Technical Reviewer	☒	Local Expert (India)	☒
Area(s) of Technical Expertise			
Sectoral Scope	**Technical Area**		
Energy Industries (renewable/non-renewable sources)	TA 1.1: Thermal energy generation from fossil fuels and biomass including thermal electricity from solar		
Energy industries (renewable/non-renewable sources)	TA 1.2: Energy generation from renewable energy sources		
Energy demand	TA 3.1. Energy Demand		
Waste Handling and Disposal	TA 13.1 Waste Handling and Disposal TA 13.2 Manure		
Approved by (Manager C & T)	Akhilesh Joshi		
Approval date:	11/12/2015		

Annex-1

List of End users interviewed during the off-site remote audit assessment

Sr. No.	Name of End users	Filter no.	Location	Interviewed Time
1	Nyaramba SDA Church	KF16-71	Nyamira, Kenya	19/10/2020
2	Kuresoi Health Center	B14-053	Nakuru, Kenya	19/10/2020
3	Yaganek primary	KF3-1	Bomet, Kenya	19/10/2020
4	Kemuga D O K Primary school	B17-087	Kisii, Kenya	19/10/2020
5	Ester Nyaboke Ndubi	PB112	Kisii, Kenya	19/10/2020
6	Lameck Onkundi	KD4-2	Kisii, Kenya	19/10/2020
7	Rebecah K Mokaya	B15-120	Nyamira, Kenya	19/10/2020
8	Alloys Nyang'au	B17-138	Kisii, Kenya	19/10/2020
9	Naftal Otenyo	KS-9	Kisii, Kenya	19/10/2020
10	Daniel Ombui	HF15P-268	Kisii, Kenya	19/10/2020
11	Callen Bosire	HF15P-779	Nyamira, Kenya	19/10/2020
12	Getrude Orina	HF15P-1252	Kisii, Kenya	19/10/2020
13	Gilbert Ogallo	HF15P-1821	Migori, Kenya	19/10/2020
14	Teresa Akoth	HF15P-2836	Migori, Kenya	19/10/2020
15	Dominic Ndege	KS-28	Kisii, Kenya	19/10/2020
16	Richard Akuya	HF15P-026	Migori, Kenya	19/10/2020
17	Sosera Secondary School	HF15P-012	Kisii, Kenya	19/10/2020
18	Davila Langat	HF100-008	Bomet, Kenya	19/10/2020
19	Mugango Girls Day School	HF100-72	Bomet, Kenya	19/10/2020
20	Eramba Secondary School	HF15P-1312	Kisii, Kenya	19/10/2020
21	Getenga Mixed Secondary School	HF10P-96	Kisii, Kenya	19/10/2020
22	Sotik Tea/Samwel Munyao	HF15P-2402	Bomet, Kenya	19/10/2020
23	Skylight Hotel	HF15P-1923	Bomet, Kenya	19/10/2020
24	G.V.C.C church	HF15P-1288	Kisii, Kenya	19/10/2020

Sample copy of questionnaire used during remote audit interview.

Checklist for interview (Verification): Aqua Clara Water Filtration Program in Kenya, 19/10/2020

Topics	Response
End user and technology details What is the Name of end user? End use of filter individual/household/institution? When was it purchased/commissioned? Unique Identification no. of filter? Do you treat water presently before drinking? If 'no' give a reason Do You use the water filter (Yes/No)? How many filters do you have? Has the filter been used in the past week(Yes/No)? No. of individual in directly consuming treated water Baseline water treatment? Yes/No , if yes How? Main Type of Fuel Used in the baseline? Whether the ACWF monitoring team contacted you for the monitoring? If yes, When and how?	
SD indicators monitoring Has level of smoke decreased (Yes/ no change/No)? Incidence of water borne diseases in the last 30 days? Level of satisfaction with using the filter? How they rate the household air quality after the installation/usage of filter? +/-/0 Incidences of coughing +/-/0 Itchy eyes +/-/0 Has there been a change in the Qty/ amount/time required to collect of the above named fuel since you started using the water filter?(Yes, No change, No)	
Maintenance Is there any major period where filter not in use due to maintenance? Do you wish to continue/level of satisfaction with respect to services?	

Based on the end user's interview, VVB summarises the following common outcome observed.

Parameter	Outcome of End user's interview
End user details (Name, village, filter no., baseline and current Water treatment method, knowledge about filter, operational condition of filter)	The details provided by end users found consistent with usage survey sheet.
Up,y	All randomly sampled end user confirmed that they are not wish to discontinue the use of filter and will wish to use the same. The same is found consistent with survey records.
Np,y	End users confirms the number of persons consuming water supplied by project scenario in their household. The same is found consistent with survey records.
Reduced incidence in water borne diseases	The end user confirms that they observed reduction in incidence of waterborne diseases like skin-rashes, diarrhea etc. After using filter.
Reduced smoke levels	End users confirm that as they used filter and thus not required to boil the water as in baseline/past. Hence, they noticed reduced in smoke levels in their households/institues (as applicable for BSF, HHFF, IHFF).
Reduced incidences of coughing	End users confirm that as they used filter they noticed reduced in smoke levels and hence reduction in incidences of coughing in their households/institues (as applicable for BSF, HHFF, IHFF).
Reduced incidences of itchy eyes	End users confirm that as they used filter they noticed reduced in smoke levels and hence reduction in incidences of itchy eyes in their households/institues (as applicable for BSF, HHFF, IHFF).
Quantity of fuel consumed in project scenario p during the year	End users confirmed that their main fuel is firewood. However, during the monitoring period they had not consumed any firewood to boil the water.Further confirmed that the amount of money spent on fuel since starting using the filter has been reduced.

Apart from above responses, all end users confirmed that they are satisfied and would like to continue use of the filter.

History of the document

Version	Date	Nature of revision	Reviewed by	Approved by
4.0	14/12/2013	Guidance included/improved	Manager CDM Quality 23/12/2013	Managing Director 23/12/2013
3.1	29/10/2012	Updated for EB69 Annex6	Manager CDM Quality 29/10/2012	Managing Director 29/10/2012
3.0	31/08/2012	Revised for VVS Track	Manager CDM Quality 08/09/2012	Managing Director 10/09/2012
2.0	21/12/2011	Comprehensively revised	Manager CDM Quality 21/12/2011	Managing Director 21/12/2011