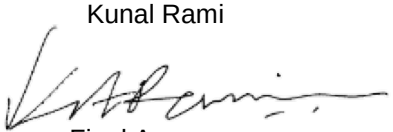
GOLD STANDARD VERIFICATION AND CERTIFICATION REPORT

BASIC INFORMATION	
Title and GS reference number of the project activity	Aqua Clara Water Filtration Program in Kenya GS Reference: GS1078
Version number of the verification and certification report	1.0 TN P-No.: 8003046426 - 21/072
Completion date of the verification and certification report	06/09/2021
Monitoring period number and duration of this monitoring period	MP: 8 19/02/2021 - 27/12/2021 (Included both days)
Version number of the monitoring report to which this report applies	4.0
Crediting period of the project activity corresponding to this monitoring period	Fixed Crediting Period 28/12/2011 to 27/12/2021
Project participants	Aqua Clara Foundation
Host Party	Republic of Kenya
Applied methodologies and standardized baselines	Technologies and Practices to Displace Decentralized Thermal Energy Consumption – 11/04/2011 Standardized baselines: N/A
Mandatory sectoral scopes linked to the applied methodologies	3: Energy Demand
Certified amount of GHG emission reductions or GHG removals for this monitoring period	**23,997 tCO_2e**
Name of the VVB	TÜV NORD CERT GmbH
Name, position and signature of the approver of the verification and certification report	Kunal Rami  Final Approver Deputy Head of JI/CDM Certification Programme

SECTION A. Executive summary

Aqua Clara Foundation has commissioned the TÜV NORD JI/CDM Certification Program to carry out the Gold Standard (GS) 8th periodic verification of the project:

"Aqua Clara Water Filtration Program in Kenya"

with regard to the relevant requirements for GS4GG project activities. 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 (VERs)

This verification covers the period from 19/02/2021 to 27/12/2021 (including both days).

The project activity was registered on 26/12/2013 and registration ID GS1078 with a retroactive fixed crediting period starting 28/12/2011.

This report summarizes the findings of the verification of the project, performed on the basis of Gold Standard GS4GG requirements, relevant guidelines in the gold standard for the global goals, as well as criteria given to provide for consistent project operations, monitoring and reporting.

Verification is the periodic independent review and ex-post determination by the GS-VVB of the monitored reductions in GHG emissions and the project's sustainability during the verification period.

The objective of Gold Standard verification is to verify the reported emission reductions and SDGs and to confirm that actual monitoring systems and procedures are in compliance with that described in the monitoring plan and the additional requirements stated by the GS.

The voluntary program reduces GHG emissions through implementation of the ACF Bio Sand Filter (BSF) and the point-of-use Hollow Fiber Filters (HFF). The point-of-use hollow fiber filters could be the Household Hollow Fiber Filter (HHFF) or the Institutional/Commercial Hollow Fiber Filter (IHFF).

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 boil water or consume raw water from turbid sources, in rural and peri-urban Kenya. In addition, the project activity will reduce the health risks of indoor air pollution.

Details of the project location are given in table A-1 below:

Table A-1: Project Location

No.	Project Location
Host Country	The Republic of Kenya
Region:	23 Counties of Kenya
Project location	Nairobi, Nandi, Uasin Gishu, Kisii, Nyamira, Nakuru, Murang'a, Bomet, Homa Bay, Migori, Kisumu, Siaya, Busia, Nyeri, Kirinyaga, Embu, Kericho, Elgeyo Marakwet, Kakamega, Bungoma, Trans Nzoia, Machakos, and Makueni,
Host country coordinates	
Latitude:	0°1'24.8" S
Longitude:	37°54'22.3" E

Table - A-2: Technical data of the project activity

Parameter	Unit	Value
Manufacturer	-	Aqua Clara Foundation
BSF	Litres/day	36
HHFF	Litres/day	15-100
IHFF	Litres/day	100-400

During the physical site verification, it was confirmed that the actual implementation of the project is in line with the project technical description in the registered PDD. And the project complies with all relevant statutory requirements.

It is verified that during this monitoring period, the project has operated normally and there have been no situations that occurred which may impact the applicability of the applied GS methodology. The monitoring system was installed, maintained in a proper manner, while collected monitoring data allowed for the verification of the amount of achieved GHG emission reductions.

SECTION B. Verification team, technical reviewer and approver

Verification Steps

The verification consisted of the following steps:

- Contract review
- Appointment of team members and technical reviewers
- Publication of the monitoring report / workplan
- A desk review of the Monitoring Report/MR/ submitted by the client and additional supporting documents with the use of verification protocol /CPM/ according to the Validation and Verification Standard /VVS/ and additional GS4GG requirements/GS/,
- Verification planning,
- On-Site assessment,
- Background investigation and follow-up interviews with personnel of the project developer and its contractors,
- Draft verification reporting,
- Resolution of corrective actions (if any),
- Final verification reporting,
- Technical review,
- Final approval of the verification.

Contract review

To assure that

- the project falls within the scopes for which accreditation is held,
- the necessary competences to carry out the verification can be provided,
- Impartiality issues are clear and in line with the CDM and GS accreditation requirements

a contract review was carried out before the contract was signed.

Appointment of team members and technical reviewers

On the basis of a competence analysis and individual availabilities a verification team, consisting of one team leader was appointed.

The list of involved personnel, the tasks assigned, and the qualification status are summarized in sections B.1 and B.2**Fehler! Verweisquelle konnte nicht gefunden werden.** below.

B.1. Verification team member

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of VVB or outsourced entity)	Involvement in			
						Desk review	On-site inspection	Interview(s)	Verification findings
1.	Team Member	EI	Lubanga	David	-	☒	☒	☒	☒

B.2. Technical reviewer and approver of the verification and certification report

No.	Role	Type of resource	Last name	First name	Affiliation (e.g., name of central or other office of VVB or outsourced entity)
1.	Technical reviewer /Approver	IR	Rami	Kunal	TÜV NORD CERT GmbH

SECTION C. Means of verification

C.1. Desk/document review

During the desk review all documents initially provided by the client and publicly available documents relevant for the verification were reviewed. The main documents are listed below:

- the last revision of the PDD including the monitoring plan/PDD/,
- Gold Standard for the Global Goals Transition Annex_v1.0
- the GS monitoring report for this monitoring period, including the claimed emission reductions for the project/MR/,
- the documentation of previous GS verifications/VER/
- the emission reduction calculation spreadsheet/ER/.
- the installation databases/XLS/.

Other supporting documents, such as publicly available information on the GS website and background information were also reviewed.

On-site assessment / using Other Means of Verification

As most essential part of the verification exercise, it is indispensable to carry out an inspection on site to verify that the project is implemented in accordance with the applicable criteria and applied methodology and registered PDD. Furthermore, the on-site assessment is necessary to check the monitoring data with respect to accuracy of the calculation of emission reductions. Changes to the key SDG Impact indicators and the achievement and implementation of mitigation / compensation measures are other integral parts of the on-site assessment.

The main tasks covered during the on-site site visit include, but are not limited to:

a. an investigation of whether all relevant equipment is installed and works as anticipated.

b. The operating staff was interviewed and observed in order to check the risks of inappropriate operation and data collection procedures.

c. Information processes for generating, aggregating and reporting the selected monitored parameters were reviewed.

d. The monitoring processes, routines and documentations were audited to check their proper application.

e. The monitoring data and monitoring/usage survey data were checked.

f. The data aggregation trails were checked via spot sample down to the level of the data generation.

g. Competency check of the ground personnel who conducts the Usage / Kitchen survey.

h. Appropriateness of the data collection, sampling and reliability test for the monitored sampling parameter.

i. Possibility of leakage emissions were also checked.

During on-sitevisit, the verification team performed interviews with the project participants to confirm selected information and to resolve issues identified in the document review.

Representatives of the Aqua Clara International and Climate Care staff including the operational staff of the project, Monitoring and evaluation team, leadership team of Aqua Clara and end users were interviewed. The main topics of the interviews are summarized in Section C.2/C.3 below**Fehler! Verweisquelle konnte nicht gefunden werden.**.

C.2. On-site inspection

Duration of on-site inspection: **14/03/2022** to **17/03/2022**				
No.	**Activity performed on-site**	**Site location**	**Date**	**Team member**
1.	Introductions (Grievance Mechanism) Paper Records checks (WCFT, WQT survey's)	Kisii County Aqua Clara Offices	23/05/2022	Lubanga, David
2.	HH inspections and interviews for BSF and HHFF use	Project HHs	23/05/2022	
3.	Institutional inspections and interviews for IHFF use	Project institutions	24/05/2022	
4.	Institutional inspections and interviews for IHFF use	Departure	25/05/2022	

C.3. Interviews

No.	**Interviewee**			**Date**	**Subject**	**Team member**
	Last name	**First name**	**Affiliation**			
1.	Mose	Risper	AQUA CLARA KENYA- M&E Officer	23/05/2022	Introductions (Grievance Mechanism, Paper Records) WCFT, WQT	David Lubanga
2.	Gakii	Sally	CLIMATE CARE-Carbon Asset Developer		ER calculations, BSF Filters,	
3.	Imbugwa	Diana	CLIMATE CARE-CAD		Implementation	
4.	Nyamwaya	Betty	AQUA CLARA KENYA-Operations Manager		Implementation, maintenance process	
5.	Adera	Valbett	AQUA CLARA KENYA-Sales Manager		Implementation	
6.	Mokong'u	Douglas	AQUA CLARA KENYA- Schools WASH Manager		WCTs, qualifications, frequency, procedures	
7.	Nyandusi	Benson	AQUA CLARA KENYA- Sales Department		Implementation	
8.	Orare	Josephine	AQUA CLARA KENYA- M&E Manager		Usages, monitoring and recording, grievances	

List of randomly selected households and institutions		
No.	**Filter Unit Number (if filter)**	**Name (Village/Organization)**
1	HF15P-5321	Muma Richard (Biticha School)
2	HF15P-3789	Abuga Ernest (St. Cyprian Biticha Secondary School)
3	B15-377	Bosibori Mary (Mobera, Biticha Village)
4	KE2-71	Nyabate Alice (Bomeroga Village)
5	KS-32	Kerubo Beatrice (Bomeroga Village)
6	PB061	Machongo Zebedeo (Kenyerere Village)

7	PB310	Bogonko Joseph (Riyabe Village)
8	HF15P-2269	Moraa Phyllis
9	B17-130	Mose Melen
10	HF15P-1058	Nyanchama Sofia
11	HF15P-1804	Fr. Kaiser Secondary School
12	HF100-244	Vine True Academy (Primary)
13	HF15P-1033	Stellah
14	HF100-273	Mogere Josphat
15	HF15P-4092	Leah
16	HF15P-4132	Ng'eno Linar
17	HF100-288 (Not in use, not loaded with water) HF100-252 (Not in use) HF100-235 (Not working)	Mercy Boarding Primary School
18	HF100-245	Mogusii Satellite Academy

C.4. Sampling approach

C.4.1 Sampling during monitoring

☐	No sampling approach has been used by the PP to determine the monitored parameters
☒	A sampling approach has been taken for the following monitored parameter(s):

Parameter	Sampling approach [1)]	Sampling Type [2)]	Population	Sample Size
$U_{p,y}$ *(BSF)*	*SS*	*PS*	2,952	310
$U_{p,y}$ *(HHFF)*	*SS*	*PS*	2,212	231
$U_{p,y}$ *(IHFF)*	*SS*	*PS*	141	120
$N_{p,y}$	*SS*	*PS*	BSF: 2,952 HFF: 2,212 IHFF:141	BSF: 310 HFF: 231 IHFF: 120
Quality of treated water	*SS*	*PS*	BSF: 2,952 HFF: 2,212 IHFF:141	BSF: 100 HFF: 100 IHFF: 100
$Q_{p,y}$	*SS*	*PS*	BSF: 2,952 HFF: 2,212	BSF: 33 HFF: 35

			IHFF:141	IHFF: 22
$Q_{p,cleanboil,y}$	*SS*	*PS*	BSF: 2,952 HFF: 2,212 IHFF:141	BSF: 33 HFF: 35 IHFF: 22
$Q_{p,rawboil}$	*SS*	*PS*	BSF: 2,952 HFF: 2,212 IHFF:141	BSF: 33 HFF: 35 IHFF: 22
Volume of safe water consumed in the project scenario	*SS*	*PS*	BSF: 2,952 HFF: 2,212 IHFF:141	BSF: 33 HFF: 35 IHFF: 22
Reduction in water borne diseases such as skin rash, diarrhoea, foot sores, parasites, eye problems and other water borne diseases	*SS*	*PS*	BSF: 2,952 HFF: 2,212 IHFF:141	BSF: 258 HFF: 202 IHFF: 118
Air Quality for BSF	*SS*	*PS*	BSF: 2,952 HFF: 2,212 IHFF:141	BSF: 258 HFF: 202 IHFF: 118

1) *Sampling Approaches:*

SiRS: *Simple Random Sampling*
StRS: *Stratified Random Sampling*
SS: *Systematic Sampling*
CS: *Cluster Sampling*
MSS: *Multi-stage Sampling*

2) *Sampling Types:*

PS: *Parameter Sampling*

Sampling Plan

Sampling Objectives:

To accurately quantify the water consumption characteristics in the project scenario, usage rate of the project technologies distributed to households, and sustainable development impacts.

In line with the approved PDD, the PP shall execute Usage surveys, SD assessments and other non-field surveys for the same sampling units.

Target population:

Users of the ACI project technologies.

Sampling Method:

Systematic random sampling from the database (total sales record)[1].

Sample Size:

Targeted: BSF (310), HHFF (231), and IHFF (120)
Reached: BSF (310), HHFF (231), and IHFF (120)

Desired Precision:

This sample size meets the 90/10 rule and the prescribed minimum requirements of the applied

[1] Procedure for picking the random samples has been outlined in the MR, and is consistent with the PDD

GS methodology and PDD.

Sampling Frame:

Only users of project technologies, drawn from the TSR for each age group.

Usage Surveys (US)

The US determines a usage parameter to account for drop off rates as project technologies age and are replaced. The parameter is measured annually.

US Sampling Approach

- BSF and HHFF samples were differentiated by regions as some regions represented a higher weight
- For BSF and HHFF, the PP chose oversampling for each age group to account for any absences and non-responses.
- The PP ensured that at least 30 samples for BSF and HHFF were selected for each age being surveyed.
- PP chose to sample all users of IHFF. However, only 120 out of 141 could be reached
- The calculation of the sample size for the monitoring surveys for the BSF units is based upon a 0.7 COV under a 90/10 approach assumed in the PDD and allowed by the applied GS methodology

Leakage Assessment

The project owner has carried out leakage assessment in accordance with provisions of the PDD. Leakage risk remains low and hence the value of zero is correct.

C.4.2 Sampling approaches during verification

☐	No sampling approach has been used by the VT to verify the monitored parameters
☒	A sampling approach has been applied by the VT for the following monitored parameter(s):

Parameter	Sampling approach [1)]	Sampling Type [2)]	Population	Sample Size
$U_{p,y}$ *(BSF)*	SiRS	AS	310	5
$U_{p,y}$ *(HHFF)*	SiRS	AS	231	6
$U_{p,y}$ *(IHFF)*	SiRS	AS	120	3
$N_{p,y}$	SiRS	AS	BSF: 310 HFF: 231 IHFF: 120	0
Quality of treated water	SiRS	AS	BSF: 100 HFF: 100 IHFF: 100	1
$Q_{p,y}$	SiRS	AS	BSF: 33 HFF: 35 IHFF: 22	1
$Q_{p,cleanboil,y}$	SiRS	AS	BSF: 33 HFF: 35 IHFF: 22	1
$Q_{p,rawboil}$	SiRS	AS	BSF: 33	1

			HFF: 35 IHFF: 22	

[1)] *Sampling Approaches:*

SiRS: Simple Random Sampling
StRS: Stratified Random Sampling
SS: Systematic Sampling
CS: Cluster Sampling
MSS: Multi-stage Sampling

[2)] *Sampling Types:*

AS: Acceptance Sampling
PS: Parameter Sampling
COM: Full data check at higher data aggregation levels and sampling at original data levels

1) Verifier's Action

Acceptance sampling

A site visit by the VVB is required each time verification is carried out, except in exceptional circumstances. The verification team leader based in Kenya has carried out a physical site visit as part of the verification and certification process of the project activity.

The following were the main objectives: -

- 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;
- 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.
- Verifiers procedure for Simple random sampling of onsite records & acceptance sampling

For determining the authenticity of the reported usage rate during the monitoring period ($U_{P,y}$) reported for this monitoring period in the monitoring reports, the verifier determined that acceptance sampling was the most ideal and practical approach.

The VVB sampling was 11 households (BSF/HHFF users), and 3 institutions (IHFF users) that participated in the monitoring survey. The VVB team ensured that it interviewed users who were part of the usage survey but also the other parameters determined via a sampling approach

The verification team followed the "Standard for Sampling and Surveys for Gold Standard Voluntary Project Activities and Programme Activities" v9.0, para 29 to 32 for taking sample out of the PP's sample.

Due to the large number of installations, the verification team has adopted the acceptance sampling approach (AS) in accordance with § 29, 30, 31 to 32 of the Sampling Standard. The verification team invoked provisions of the para 32 of the applied standard to apply the producer risk and consumer risk as below:

The verification team considered an AQL 1% and UQL 20%, Producer risk of 10% and consumer risk of 10% for determination of the sample size for site assessment. Considering the above § under applied sampling standard, the VVB should verify 18 samples under this approach with acceptance (c) number 1. The verification team has verified total of 18 sampled end users from the PP's samples to further verify the project implementation on the ground across the entire vintages under crediting during current monitoring period. Project usage survey samples were randomly selected from PP samples. The sampled end users and other documentary evidences demonstrating implementation of the project Aqua Clara Water Filtration Program in Kenya.

The list of the end users verified through physical site inspections is presented under section above.

During the onsite assessment, the verification team selected the following approach:

From the observations / results from 18 verified filters, the following could be confirmed:

1. The usage rate of the technologies in households and institutions;
2. Living conditions with regards to hygiene;
3. Reduce usage of biomass, mainly wood fuel;
4. SD aspect as per the registered GS project documents;
5. The pre-project scenario
6. The HH and institution sizes and approximate dates of installations

AQL	1%
UQL	20%
Producer risk	10%
Consumer risk	10%
Sample size	18
Acceptance Number	1
Total samples covered	18

No PP sampling-based monitoring records/data results were found discrepant during the VVB verification physical site audit. 17 verified samples visited and interviewed were found to be in good working order. For the malfunctioning filters at a school were 3 different filters and all were found abandoned due to a change in management. Based on the assessment randomly selected samples, it could be confirmed that the result presented for continuous use of wood for boiling water, usage survey, are reproducible and thus, sampling result is deemed acceptable.

Further, the verification team reviewed all the primary monitoring records during site visit audit assessment to assess the consistency of information with ER calculation spreadsheet and found the monitoring data to be correctly transcribed into the ER sheet and MR. Based on that, verification team concludes that sampling results and values presented by CME in the MR and ER calculation spread sheet and results of survey and WBT are consistent with the onsite observation and interview with the end users.

The details of the sampled users assessed to confirm the project implementation and other monitoring aspects are presented in this report.

A summary of interview questions and feedback received are presented in the below table:

Questions for households on site	Summary of feedback
Date of acquisition (mainly year)	As per user agreement

Questions for households on site	Summary of feedback
Telephone contact	-
Cost of the filters (BSF, HHFF, and IHFF)	Variable
Family Size (Number of people in the household)	Variable
Performance	Pleased with the respective filters for HHs and institutions
Whether surveys were conducted (if applicable – part of the sample)	Confirmed accordingly
Benefits of the BSFs, HHFFs, and IHFFs	Reduction in costs of firewood, reduction or elimination of diseases
Baseline water disinfection method	Boiling using firewood
Frequency of use	Pleased
Amount of water consumed	Variable
Overall impression	Pleased

From the defined processes and procedures including the sampling plan in the MR, the verification team has determined that the report provides sufficient information without errors or omissions and commissions that would warrant a revision of the same.

Conclusion
For the parameters determined ex-post through sampling, the VT can confirm that the surveys were conducted in line with the registered monitoring plan in the PDD. The sampling efforts were undertaken in accordance with the "*Standard: Sampling and surveys for CDM project activities and programme of activities" version 9.0*, and the GS *"Guidelines for carrying out usage surveys for projects implementing household water filtration technologies"*, so that the presented results are confirmed with a reasonable level of confidence.

Draft verification reporting

On the basis of the desk review, site visit, follow-up interviews and further background investigation, the verification protocol is completed. This protocol together with a general project and procedural description of the verification and a detailed list of verification findings form the draft verification report. This report is sent to the client for resolution of raised CARs, CLs and FARs.

Resolution of CARs, CLs and FARs

Nonconformities raised during the verification can either be seen as a non-fulfilment of criteria ensuring the proper implementation of a project or where a risk to deliver high quality emission reductions is identified.

Corrective Action Requests (CARs) are issued, if:

- Non-conformities with the monitoring plan or methodology are found in monitoring and reporting, or if the evidence provided to prove conformity is insufficient;
- Mistakes have been made in applying assumptions, data or calculations of emission reductions which will impair the estimate of emission reductions;
- Issues identified in a FAR during validation or previous verifications requiring actions by the project participants to be verified during verification have not been resolved.

The verification team uses the term Clarification Request (CL), which is be issued if:

- information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met.

Forward Action Requests (FAR) indicate essential risks for further periodic verifications. Forward Action Requests are issued, if:

- the monitoring and reporting require attention and / or adjustment for the next verification period.

For a detailed list of all CARs, CLs and FARs raised in the course of the verification, refer chapter 4.

Final reporting

Upon successful closure of all raised CARs and CLs the final verification report including a positive verification opinion is issued. In case not all essential issues could finally be resolved, a final report including a negative verification opinion is issued.

The final report summarizes the final assessments w.r.t. all applicable criteria.

Technical review

Before submission of the final verification report a technical review of the whole verification procedure is carried out. The technical reviewer is a competent GHG auditor being appointed for the scope this project falls under. The technical reviewer is not considered to be part of the verification team and thus not involved in the decision-making process up to the technical review.

As a result of the technical review process, the verification opinion and the topic specific assessments, as prepared by the verification team leader, may be confirmed or revised. Furthermore, reporting improvements might be achieved.

Final approval

After successful technical review an overall (esp. procedural) assessment of the complete verification is carried out by a senior assessor located in the accredited premises of TÜV NORD.

After this step the verification team submits the verification report including the verification opinion to the client via e-mail and to Gold Standard via the GS registry.

C.5. Clarification requests (CLs), corrective action requests (CARs) and forward action requests (FARs) raised

Verification Topics	No. of CAR	No. of CL	No. of FAR
A: Description of project activity A.1. General description of project A.2. Location of project A.3. Reference of applied methodology A.4. Crediting period of project	2 1	2	0
B: Project Implementation B.1: Description of implemented project B.1.1. Forward Action Requests B.2: Post-registration changes B.2.1. Temporary deviations from the approved Monitoring & Reporting Plan, methodology or standardized baseline B.2.2. Corrections B.2.3. Changes to start date of crediting period B.2.4. Permanent changes from the Design Certified	0	0	0

Verification Topics	No. of CAR	No. of CL	No. of FAR
monitoring plan, applied methodology or applied standardized baseline B.2.5. Changes to project design of approved project			
C: Description of monitoring system applied by the project Article 1: Organisational Setup of the carbon and SDG monitoring Article II. Description of human resources Article III. Survey design Article IV. Biogas user survey (US + CMS) Article V. Survey implementation Article VI. Baseline Fuel Test (BFT) and the Project Performance Field Test (PFT) Article VII. KPT survey design Article VIII. KPT implementation	3	3	0
D: Data and parameters D.1. Data and parameters fixed ex ante or at renewal of crediting period D.2. Data and parameters monitored D.3. Comparison of monitored parameters with last monitoring period D.4. Implementation of sampling plan	1 1 1	1 2 1	0
E: Calculation of SDG outcomes E.1. Calculation of baseline value or estimation of baseline situation of each SDG Impact E.2. Calculation of project value or estimation of project situation of each SDG impact E.3. Calculation of leakage E.4. Calculation of net benefits or direct calculation for each SDG Impact E.5. Comparison of actual SDG Impacts with estimates in approved PDD E.5.1.1. Explanation of calculation of value estimated ex ante calculation of approved PDD for this monitoring period E.6. Remarks on increase in achieved SDG Impacts from estimated value in approved PDD	2 1 1 1 1	1	0
F: Safeguards Reporting	0	0	0
G. Stakeholder Inputs and Legal Disputes G.1. List all Inputs and Grievances which have been received via the Continuous Input and Grievance	0	0	0

Verification Topics	No. of CAR	No. of CL	No. of FAR
Mechanism together with their respective responses / mitigations G.2. Report on any stakeholder mitigations that were agreed to be monitored G.3. Provide details of any legal contest that has arisen with the project during the monitoring period			
FAR from previous verification	0	0	2
FAR from this verification	0	0	0
SUM	**15**	**10**	**0**

SECTION D. Verification findings

D.1. Compliance of the monitoring report with the monitoring report form

Means of verification	By means of the GS website it has been checked whether the latest applicable MR template has been used. Further it has been checked whether the latest instructions for filling out the MR template have been followed. Every section has been checked against the respective guidance. The following sources of information have been used in this context: • /MR/ • /MRT/ • /gs/	
Findings	☒	The latest reporting template has been applied.
	☐	The latest instructions for filling out the MR have been followed. No adverse finding has been identified in the course of this verification.
	☒	The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context:
		CAR 03
Conclusion	☐	No CARs / CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.
	☒	The raised CARs / CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details, please refer to Appendix 3.
	The verification team has checked all sections of the MR and confirms by means of comparing the MR that has been used with the standardized GS4GG MR v1.1 template. It could be confirmed the latest instructions for filling out the MR have been followed.	

D.2. Description of project activity

D.2.1.

Means of verification	An in-depth review of the MR section A was carried out during desk review to confirm whether the project purpose, description, location, applied methodology and crediting period are consistent with the approved GS4GG registered VPA-DD. **Purpose and general description of project** The large-scale voluntary Project Activity is developed by the ClimateCare Limited together with the Aqua Clara Foundation (project owner) and Aqua Clara International (project implementer) under GS1078 VPA. It included selling of and training on the use of the ACI water purifiers (project technologies): BioSand Filter (BSF), point of sale Household Hold Fiber Filters (HHFF), and Institutional Hollow Fiber Filters (IHFF), to displace the use of firewood fuel traditionally used to boil water for consumption and in the project scenario, offer an affordable, long-term solution for end users who typically consume raw water from turbid sources. The filters purify raw water to clean, portable water fit for human consumption. The BSF has a water purification capacity of 60liters per day, HHFF has a purification capacity of up to 15-100 litres per day (which can also be used in institutions), and the IHFF has a purification capacity of 100–400 litres of water per day throughout the 10-year crediting period in rural and peri-urban Kenya consisting of 23 counties (as stated in MR) which form the project boundary. The project technologies offer an affordable, clean, efficient and easy-to-use alternative for water purification within the rural and peri-urban area the Project Activity operates. Wood fuel consumption is therefore substantially reduced as a result of implementing the project thereby actively reducing CO_2 emissions and diminish the associated risks of Indoor Air

	Pollution. The ACF BSFs are sold in complete, easy to install and maintain units comprising of a 75-litre jerry can body, PVC piping and fittings, filtration sand, ballast, brass disinfectant. The filter is sold as microbial water treatment system as a point-of-use system which typically is the domestic household. The system can purify up to 36 litres of water a day. The purifiers do not require any additional materials heating or electricity. The ACF Facility Hollow Fibre Membrane Filter unit shall purify water and supply water to institutions such as schools, hotels and clinics, or can be purchased by end-users from water kiosks (commercial facilities). All purchases of filtered water from water kiosks are tracked per consumer and recorded electronically by the project developer and owner Aqua Clara Foundation, as explained in the PDD. The average capacity of the ACF Facility Hollow Fibre Membrane Filter shall be about 5,500litres per day The sale of the filters started on 03/09/2009, and BSF sales reduced from 3,215 to 2,952 as at 18/02/2020. 2,212 units of HHFF were sold from 01/11/2020. There was a drop in IHFF units sold from 192 to 141 from 19/06/2014 to 18/02/2022 as per the verified Total Sales Records (TSR) database and MR. **Location of Project:** The location of the Voluntary Project Activities covers 23 counties within the terrestrial limits of the Republic of Kenya. The 23 counties include: Nandi, Uasin-Gishu, Kisii, Nyamira, Nakuru, Murang'a, Bomet, Homa Bay, Migori, Kisumu, Kirinyaga, Embu, Kericho, Elgeyo Marakwet, Kakamega, Siaya, Nyeri, Makueni, Busia, Bungoma, Trans-Nzoia, Machakos, and Nairobi. **Reference of applied methodology** GS Methodology: *Technologies and Practices to Displace Decentralized Thermal Energy Consumption, version 1.0.* Other Gold Standard tools and annexes applied in the project development are *Gold Standard for the Global Goals* and *Guidelines for carrying out usage surveys for projects implementing household water filtration technologies*. **Crediting period of project:** This is the 8th and the last monitoring period of the fixed 10-year crediting period which started from 28/11/2011 to 27/12/2021 inclusive both dates as defined in GS review during inclusion of this PA. The following are the implementation milestones. - 26/12/2013: Registration - 28/12/2011: Start date of fixed crediting period - 16/06/2016: Design Change approved - 09/07/2018: Transition to GS4GG approved by the GS - 27/12/2021: End of crediting period The following sources of information have been used in this context: • /VPA-DD/ • /MR/ • /GS/

	• /VR/	
Findings	☒	The project has been implemented as described in the latest version of the VPA-DD as well as in section B.1 of the monitoring report. No deviations thereof have been identified in the course of this verification.
	☐	The following deviations from the registered project design and or the project description in the MR have been identified in the course of this verification.
	☐	In this context the following CARs, CLs have been raised:
Conclusion	☒	No CARs / CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.
	☐	The raised CARs / CLs have been addressed appropriately. The PP has carried out the requested corrections.
	The review of project documentation including the distribution database it can be confirmed that w.r.t. the realized project location, monitoring period and crediting period, the VPA is described in accordance to the VPA-DD with no corrections or clarifications found.	

D.2.2. Description of implemented project

Means of verification	The verification team conducted an in-depth review of the draft monitoring report and compared against the registered PDD related to information of the project technology and implementation status **Description of implemented project** The VPA is implemented in accordance with the description in the registered PDD as Aqua Clara Water Filtration Program in Kenya to disseminate water purification filters (BSF, HFF, and IHFF) aimed to improve the livelihoods and quality of life of rural and peri-urban counties of Kenya. Aqua Clara International the VPA implementer of this project is responsible for coordinating, facilitating, sale, and monitoring the voluntary project activity. During the monitoring period, 2,952 BSFs, 2,212 HHFFs, and 141 IHFFs were noted to be operational. It was discovered that some institutions had more than 1 IHHFF and hence the excesses were removed from the database such that the TSR records 1 IHFF per institution. Several point-of-use water purification technologies are available in Kenya including boiling, chlorination, solar disinfection (using sunlight), flocculent-disinfectants and filtration. The average efficiency of a BSF is 95- 99% elimination of microbial contaminants. The ACI Hollow Fiber membrane filter is based upon hollow-fiber membrane technology, which, for decades, has been used in medical, water, food, and industrial applications for high-precision ultra-filtration. Since bacteria are larger than 0.1 micron, they cannot flow through the holes in the tubes. No biological or chemical processes are involved. These filters are designed to be used in both in domestic set ups (households, apartments, etc.) and institutions such as schools and restaurants. The filters were designed and engineered by Aqua Clara in their laboratories at the Bio Economic Institute of Michigan State University, in Holland, Michigan, USA. **Forward Action Requests** There are no Forward action requests raised during the verification by VVB for this monitoring period. **Post-registration changes** There are no temporary deviations, corrections, and change of crediting period. There were 2 permanent changes to the registered monitoring plan: The Cj parameter fixed ex ante was previously monitored but is now fixed; and monitoring frequency of the Water Consumption Test per filter end user per day was initially

	planned to be per year but was changed to once every two years (biennially). There was one change in the project design: institutions are now included to the project boundary. This design change was validated and approved by the Gold Standard Foundation- TAC on 16/06/2016. This is crosschecked on documents and interview of CME, and VPA implementer. The following sources of information have been used in this context: • /PDD/ • /MR/	
Findings	☒	The project has been implemented as described in the latest version of the PDD as well as in section B.1 of the monitoring report. No deviations thereof have been identified in the course of this verification.
	☐	The following deviations from the registered project design and or the project description in the MR have been identified in the course of this verification).
	☐	In this context the following CARs, CLs have been raised:
Conclusion	☒	No CARs / CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.
	☐	The raised CARs / CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details, please refer to Appendix 3.
	The verification was carried out with support from myClimate, HELIOZ, and PA implementer personnel (Get Water Uganda). The review of project documentation could confirm that w.r.t. the realized technology, the project equipment, as well as the monitoring and survey, the project has been implemented and operated as described in the registered VPA-DD version after relevant corrections.	

D.3. Compliance of monitoring activities with the registered monitoring plan

D.3.1. Data and parameters fixed ex ante or at renewal of crediting period

Means of verification

The verification team has checked the ex-ante parameters and data stated in Section D.1 of MR and compared with the Section B.6.2 of approved revised PDD whether all parameters fixed ex-ante for the crediting period have been applied correctly.

The following parameters have been fixed at validation or at renewal of crediting period:

No.	SDG Indicator	Parameter	Value	Unit
1	13.1	$EF_{b,fuel,CO2}$	112	tCO_2/TJ
2	13.1	$EF_{b,fuel,CH4}$	0.3	tCH_4/TJ
3	13.1	$EF_{b,fuel,N2O}$	0.004	t N_2O /TJ
4	6.1	C_j	18-households 76-Institutions and commercial facilities	%
5	13.1	$W_{b,y}$	Households – 0.0004 Institutions/commercial facilities – 0.0004	Tonnes/litre
6	13.1	NCV_b	0.015	TJ/tonne
7	13.1	GWP for CH_4	28	Fraction
8	13.1	GWP for N_20	265	Fraction

The following sources of information have been used in this context:

	• /MR/ • /PDD/ • /IPCC/ • /IM/	
Findings	☐	The MR and the ER calculation have considered the parameters fixed ex-ante for the crediting period correctly, no deviations have been observed.
	☒	The following deviations from the parameters fixed ex-ante or at renewal of crediting period have been identified in the course of this verification: The C_j was a monitored parameter but was changed to become a fixed parameter. The GS approved this permanent change on December 2016.
	☒	In this context the following CARs, CLs, FARs have been raised:
		CAR 07, CAR 08, CL 06
Conclusion	☐	No CARs / CLs / FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.
	☒	Most of the raised CARs / CLs have been addressed appropriately. The PP has carried out the requested corrections. However, the PP shall do the necessary revision for CAR 08 as requested by the VVB. All respective findings could be closed out. For details, please refer to Appendix 3.
	The data and parameters listed in the section D.1 of the MR were crosschecked with the applied methodology, and the latest approved PDD. The PP shall correct the parameters addressed in CAR 08 as per VVB's comments. After minor correction, the section is filled according to the MR v1.1 template guidelines.	

D.3.2. Data and parameters monitored

Means of verification	During the verification all relevant monitoring parameters listed in Section D.2 of the MR and Section B.7.1 of approved revised VPA-DD have been verified with regard to the (i) appropriateness of the applied measurement / determination method, (ii) the correctness and accuracy of the values applied for ER calculation, (iii) applied QA/QC measures. The results as well as the verification procedure are described parameter-wise in the project specific verification checklist (Appendix 4). The following sources of information have been used in this context: • /MR/ • /VPADD/ • /ER/	
Findings	FAR 03; CL 01; CAR 04; CAR 03	
Conclusion	☐	No CARs / CLs / FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.
	☒	The raised CARs / CLs / FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details, please refer to Appendix 3.
	After appropriate corrections were carried out by the VPA Implementer it could be concluded that all monitoring parameters have been measured / determined without material misstatements and in line with VPA-DD and applied methodology	

D.3.3. Comparison of monitored parameters with last monitoring period

Means of verification	Section D.3 of monitoring report describes the comparison of monitored parameters with the last monitoring period according to the GS4GG and PDD.		
	BSF		
	Data / Parameter	**Value obtained in**	**Value obtained last monitoring period**

	this monitoring period	
$U_{p,y}$	83.23%	70.83%
$Q_{p,y}$ (biennially monitored capped as per WHO guidelines)	7	7
Quality of filtered water	100%	100%
$Q_{p,rawboil,y}$	0	0
$Q_{p,cleanboil,y}$	0	0
$N_{p,y}$	1,752	2,043
$B_{b,y}$	4.0215	4.6896
Number of People trained on water, hygiene, and sanitation management	380	85
Number of filters sold	2,952	3,215
Income generation	Total income Ksh. confidential, employment records provided	Total income confidential
Number of people employed	61	52
Air quality parameters	Reduction in occurrences of water borne diseases;100% Reduced Smoke levels in the House: • Yes: 95% • N/A: 0% • No change: 5% • No: 0% Reduced Incidents of Coughing: • Yes = 95% • No = 0% • No Change = 5% • N/A=0% Reduced incidences of Itchy Eyes: • Yes = 88% • No = 0% • No Change = 12% • N/A=0%	Reduction in occurrences of water borne diseases; 77% Reduced Smoke levels in the House: • Yes: 90% • N/A: 0% • No change:8 % • No: 2% Reduced Incidents of Coughing: • Yes = 93% • No = 0% • No Change = 7% • N/A=0% Reduced incidences of Itchy Eyes: • Yes = 77% • No = 0% • No Change = 23% • N/A=0%

HHFF		
Data / Parameter	**Value obtained in this monitoring period**	**Value obtained last monitoring period**
$U_{p,y}$	87.45%	92.64%
$Q_{p,y}$ (biennially monitored capped as per WHO guidelines)	7	7
Quality of filtered water	100%	98.6%
$Q_{p,rawboil,y}$	0	0
$Q_{p,cleanboil,y}$	0	0
$N_{p,y}$	1,662	1,662
$B_{b,y}$	3.2716	3.8158
Number of People trained on water, hygiene, and sanitation management	380	85

Number of filters sold	2,212	2,212	
Income generation	Total income confidential, employment records provided	Total income confidential, employment records provided	
Number of people employed	61	52	
Air quality parameters	Reduction in occurrences of water borne diseases;100% Reduced Smoke levels in the House: • Yes: 92% • N/A: 0% • No change: 8% • No: 0% Reduced Incidents of Coughing: • Yes = 92% • No = 0% • No Change = 8% • N/A=0% Reduced incidences of Itchy Eyes: • Yes = 89% • No = 1% • No Change = 10% • N/A=0%	Reduction in occurrences of water borne diseases; 87% Reduced Smoke levels in the House: • Yes: 92% • N/A: 0% • No change:7 % • No: 1% Reduced Incidents of Coughing: • Yes = 88% • No = 1% • No Change = 11% • N/A=0% Reduced incidences of Itchy Eyes: • Yes = 87% • No = 1% • No Change = 12% • N/A=0%	

IHFF		
Data / Parameter	**Value obtained in this monitoring period**	**Value obtained last monitoring period**
$U_{p,y}$	96.67%	90.55%
$Q_{p,y}$ (biennially monitored capped as per WHO guidelines)	2.33	2.33
Quality of filtered water	100%	100%
$Q_{p,rawboil,y}$	0	0
$Q_{p,cleanboil,y}$	0	0
$N_{p,y}$	106	65.05
$B_{b,y}$	0.00022	0.000022
Number of People trained on water, hygiene, and sanitation management	380	85
Number of filters sold	141	192
Income generation	Total income confidential, employment records provided	Total income confidential, employment records provided
Number of people employed	61 (38 men and 23 women)	52 (34 men 18 women)
Air quality parameters	Reduction in occurrences of water borne diseases;100% Reduced Smoke levels in the House: • Yes: 93% • N/A: 0%	Reduction in occurrences of water borne diseases; 100% Reduced Smoke levels in the House: • Yes: 76% • N/A: 0% • No change:24 % • No: 0%

		• No change: 7% • No: 0% Reduced Incidents of Coughing: • Yes = 92% • No = 8% • No Change = 0% • N/A=0% Reduced incidences of Itchy Eyes: • Yes = 50% • No = 0% • No Change = 50% • N/A=0%	Reduced Incidents of Coughing: • Yes = 76% • No = 0% • No Change = 24% • N/A=0% Reduced incidences of Itchy Eyes: • Yes = 79% • No = 0% • No Change = 21% • N/A=0%	

The following sources of information have been used in this context:

- /MR/
- /ER/
- /DB/
- /PS/
- /PDD/

Findings	☐	No errors, omissions, misstatements or incomplete information has been identified.
	☒	There are identified mistakes.
	☒	In this context the following CARs, CLs, FARs have been raised:
		CAR 09
Conclusion	☐	No CARs / CLs / FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.
	☒	The raised CARs has been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details, please refer to Appendix 3.
	Appropriate actions have been taken, and it could be concluded that the information are filled correctly.	

D.3.4. Implementation of sampling plan

Means of verification	The verification team has checked the sampling plan and considered appropriate for all the surveys and field tests done: Project Survey, Water Consumption Field Test (WCFT), Water Quality Tests (WQT), and Annual Usage Survey. - Baseline/project survey is a user survey that collects information about the access to drinking water without boiling, under the suppressed demand within the project boundary. The survey gives value of C_j. - Monitoring survey is a user survey that gathers information on households and monitors parameters $N_{p,y}$, quality of treated water, $Q_{p,y}$, $\mathbf{Q_{p,cleanboil,y,\ Qp,rawboil,y,}}$ volume of safe water consumed in the project scenario, reduction in water borne diseases such as skin rash, diarrhoea, foot sores, parasites, eye problems and other water borne diseases, air quality, and $B_{b,y}$. - Annual Usage Survey is usage survey to collect data about the users versus non-users of the BSF, HHFF, and IHFF technologies for water purification. It gathers information for the determination of the parameter, $U_{p,\,y.}$ - WCFT is a field test that collects data about the amount of water consumed by HHs and institutions within the project boundary and collects data for

	parameters, $Q_{py,}$ volume of safe water consumed in the project scenario, $Q_{cleanboil,y,}$ $Q_{p,rawboil,y}$, and $Q_{p,y,}$ - WQT is a test done to determine the quality of water from surface, underground and other contaminated sources used by users in the baseline scenario within the project boundary. It considers the quality of water treated by BSF, HHFF, and IHFF technologies. Thus, the test gathers information on the parameter, quality of treated water. Sampling Approach: The sampling approach used adheres to the monitoring requirements of the applied methodology '*Technologies and Practices to Displace Decentralized Thermal Energy Consumption*' (version 1.0). The VPA implementer applies a systematic random sampling approach for selection of the households and institution users from the Total Sales Records, where 310 households for the BSF, 231 HHFF and 120 IHFF samples were initially randomly selected in an appropriate proportionate representation of age groups. 1. **Project/Baseline Survey**: Aqua Clara International adopted a random sample size of 310 for BSF, 21 for HHFF, and 120 for IHFF. 2. **Monitoring Survey**: Was done in using a randomly selected size of 310 households for the BSF, 231 HHFF and 120 IHFF. 3. **Annual Usage Survey**: The survey was undertaken on sample size of 100 for BSF, 100 for HHFF, and 100 for IHFF. 4. **WCFT**: A 90/30 precision was used per the sample approach selection. Despite the acceptable 8 sample size, the PP opted to adopt 33 HHs for BSF, 33HHs for HHFF, and 22 institutions for IHFF. 5. **WQT**: Samples sizes adopted were 310 for BSF, 231 for HHF, and 120 for IHFF. **Sampling methodology:** Project/Baseline Survey: The PP asked the relevant questions to assess the source of water, water treatment options that the households used and the type of fuel that they used before purchasing the filter. Monitoring Survey: The survey (carried out annually) was conducted between 10/02/2022 to 17/03/2022. Sample sizes selected for BSF, HHFF and IHFF are 310, 231, and 120, respectively. WQT: Aqua Clara International selected sample sizes of 310 for BSF, 231 for HHFF, and 120 for IHFF and collected samples from each household selected as a sample unit from technology specific sampling frame. Each sample of filtered water was tested for presence or absence of E. coli using the 3M Petri film plate. At a central field laboratory, all the samples were tested, and results recorded for each individual sample. This ensured the PP's water quality testing was representative and robust. Field laboratory testing was selected because it allows for near immediate testing without contamination or any other distortion from the transportation to laboratories. The use of field laboratory tests is approved in the methodology and is a commonly accepted international approach. A 90/30 confidence level/precision required for this parameter was achieved on the surveys conducted. WCFT: Aqua Clara International applied the 90/30 precision to obtain sample sizes of 33,

	33, and 22 for BSF, HHFF, and IHFF, respectively. The biennially survey was conducted the 2020/2021 period for a 3-day period for households and institutions with functional water filters. The PP measured only water used for cooking, personal hygiene (washing hands) and drinking only as per the Gold Standard requirements. A calibrated 8-liter bucket was used to measure the volume of water. The water is measured before pouring into the buckets the households use on their daily routine. Water from the bucket is the poured into the filter. Day 1 of the survey involved introductions and awareness creation of the period of the exercise and the protocols, including an agreed upon time enumerators would find households for a smooth exercise. During day 2-4 of the exercise, enumerators conducted a volumetric assessment for raw water before it is added to the Hydraid water filter. The enumerator recorded the value of raw water to be filtered prior to filtration. This assessment was conducted using standardized volumetric container of a known volume. Raw water was measured prior to it either being filtered or boiled. The mean value of the total raw water (the total water filtered per day aggregated over a three-day period) was used to determine parameter $Q_{p,y}$ per household. This parameter was then aggregated (after elimination of outliers) to determine the value used to calculate Emission Reductions for the whole project per technology. The PP has demonstrated the determination of safe water consumed per person per day that is provided from the filtration of water using the project technology. The parameter $Q_{p,y}$ has been determined to be 7l/p/d for BSF, 7l/p/d for HHFF and 2.33l/p/d for IHFF. The WCFT recorded on a day-to-day basis - the number of people living in the household and institutions which helped in the determination of $N_{p,y}$. The PP found that there was an average of 5.59 p/d for BSF, 4.55p/d HHFF and 65 IHFF Annual Usage Survey: This survey was based on users who completely abandon use of the filter and those that do not properly use or maintain the filter which could affect the quality of water treated. Sample sizes of 100 for BSF, 100 for HHFF, and 100 for IHFF were adopted. This survey was carried out using closed questionnaires and spot checks. The usage survey in this monitoring period was held between 10/02/2022-17/03/2022. The verification team checked the sampling plan and considered the same to be appropriate based on the GS methodology requirements. The minimum number of users (households an institutions) for both surveys and field tests is met. Further it has been checked whether the VPA implementer/CME has correctly applied the implemented sampling plan including (i) description of the implemented sampling design (ii) collected data (iii) analysis of collected data (iv) demonstration on whether the required confidence/precision has been met. The following sources of information have been used in this context: • /MR/ • /ER/ • /PDD/ • /DB/ • /WQT/ • /WCFT/ • /IM01/IM02/	
Findings	☐	The CME has not applied sampling approaches for the survey
	☒	The CME has applied sampling approaches for the survey.

	☒	In this context the following CARs, CLs, FARs have been raised:
		CL 09
Conclusion	☐	No CARs / CLs / FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.
	☒	The raised CARs has been addressed appropriately. For details, please refer to Appendix 3.
	After PP's corrections, it could be concluded that the sampling method is plausible.	

D.4. Assessment of data and calculation of emission reductions or net removals

D.4.1. Calculation of baseline GHG emissions or baseline net GHG removals by sinks

Means of verification

During the verification, the determination of the baseline situation has been checked.

According to the GS4GG, SDG requirements are to be monitored as described in the latest approved PDD.

In the baseline scenario, the SDG requirements for:

Calculation of baseline value for SDG 3 – Good health and wellbeing

BSF Technology		
Parameter	**Value applied**	**Remarks**
Usage rate ($U_{p,y}$)	0%	No persons were using the project technology in the baseline scenario
Number of people. days consuming water supplied by project scenario p through year y($N_{j,y}$)	0	No persons were using the project technology in the baseline scenario
Reduced incidence in water borne diseases	High incidence of water borne diseases: 0% reduction	No persons were using the project technology in the baseline scenario
Reduced smoke levels	High smoke level in the households: 0% reduction	No persons were using the project technology in the baseline scenario
Reduced incidences of coughing.	High Incidences of coughing: 0% reduction	No persons were using the project technology in the baseline scenario
Reduced incidences of itchy eyes	High incidence of itchy eyes: 0% reduction	No persons were using the project technology in the baseline scenario

HHFF Technology		
Parameter	**Value applied**	**Remarks**
Usage rate ($U_{p,y}$)	0%	No persons were using the project technology in the baseline scenario
Number of people. days consuming water supplied by project scenario p through year y($N_{j,y}$)	0	No persons were using the project technology in the baseline scenario
Reduced incidence in water borne	High incidence of water borne	No persons were using the project technology in the

diseases	diseases: 0% reduction	baseline scenario
Reduced smoke levels	High smoke level in the households: 0% reduction	No persons were using the project technology in the baseline scenario
Reduced incidences of coughing.	High Incidences of coughing: 0% reduction	No persons were using the project technology in the baseline scenario
Reduced incidences of itchy eyes	High incidence of itchy eyes: 0% reduction	No persons were using the project technology in the baseline scenario

IHFF Technology		
Parameter	**Value applied**	**Remark**
Usage rate ($U_{p,y}$)	0%	No persons were using the project technology in the baseline scenario
Number of people. days consuming water supplied by project scenario p through year y($N_{j,y}$)	0	No persons were using the project technology in the baseline scenario
Reduced incidence in water borne diseases	High incidence of water borne diseases: 0% reduction	No persons were using the project technology in the baseline scenario
Reduced smoke levels	High smoke level in the households: 0% reduction	No persons were using the project technology in the baseline scenario
Reduced incidences of coughing.	High Incidences of coughing: 0% reduction	No persons were using the project technology in the baseline scenario
Reduced incidences of itchy eyes	High incidence of itchy eyes: 0% reduction	No persons were using the project technology in the baseline scenario

IHFF Technology		
Parameter	**Value applied**	**Remark**
$Q_{P,y}$	0l/p/d	No clean and safe water was being supplied by the project in the baseline scenario.
$Q_{P,raw\ boil}$	0l/p/d	No clean and safe water was being supplied by the project in the baseline scenario.
$Q_{P,clean\ boil}$	0l/p/d	No clean and safe water was being supplied by the project in the baseline scenario.
Volume of clean water consumed	0l/p/d	No clean and safe water was being supplied by the project in the baseline scenario.

Quality of treated water	0%	No clean and safe water was being supplied by the project in the baseline scenario.

Calculation of baseline value for SDG 6 – Clean Water and Sanitation

BSF Technology		
Parameter	**Value applied**	**Remarks**
$Q_{P,y}$	0 l/p/d	No clean and safe water was being supplied by the project in the baseline scenario.
$Q_{P,raw\ boil}$	0l/p/d	No clean and safe water was being supplied by the project in the baseline scenario.
$Q_{P,clean\ boil}$	0l/p/d	No clean and safe water was being supplied by the project in the baseline scenario.
Volume of clean water consumed.	0l/p/d	No clean and safe water was being supplied by the project in the baseline scenario.
Quality of treated water	0%	No clean and safe water was being supplied by the project in the baseline scenario.
Number of people attending workshops, seminars or trainings on water, hygiene and sanitation management	0	No trainings or workshops were being organised by the project in the baseline scenario.

HHFF Technology		
Parameter	**Value applied**	**Remark**
$Q_{P,y}$	0l/p/d	No clean and safe water was being supplied by the project in the baseline scenario.
$Q_{P,raw\ boil}$	0l/p/d	No clean and safe water was being supplied by the project in the baseline scenario.
$Q_{P,clean\ boil}$	0l/p/d	No clean and safe water was being supplied by the project in the baseline scenario.
Volume of clean water consumed.	0l/p/d	No clean and safe water was being supplied by the project in the baseline scenario.
Quality of treated water	0%	No clean and safe water was being supplied by the project in the baseline scenario.
Number of people attending workshops, seminars or trainings on water, hygiene and sanitation management	0	No trainings or workshops were being organised by the project in the baseline scenario.

IHFF Technology		
Parameter	**Value applied**	**Remark**
$Q_{P,y}$	0l/p/d	No clean and safe water was being supplied by the project in the baseline scenario.
$Q_{P,raw\ boil}$	0l/p/d	No clean and safe water was being supplied by the project in the baseline scenario.
$Q_{P,clean\ boil}$	0l/p/d	No clean and safe water was being supplied by the project in the baseline scenario.
Volume of clean water consumed.	0l/p/d	No clean and safe water was being supplied by the project in the baseline scenario.
Quality of treated water	0%	No clean and safe water was being supplied by the project in the baseline scenario.
Number of people attending workshops, seminars or trainings on water, hygiene and sanitation management	0	No trainings or workshops were being organised by the project in the baseline scenario.

Calculation of baseline value for SDG 8 – Decent Work and Economic Growth

BSF, HHFF and IHFF Technologies		
Parameter	**Value applied**	**Remark**
Number of persons employed by the project.	0	No persons were employed by the project in the baseline scenario
Change in number of jobs and positions for women or change in income and asset distributions by region, ethnicity, religion, and socioeconomic groups	0	No persons were employed by the project in the baseline scenario
Employment wages of people employed by the project	0	No persons were employed by the project in the baseline scenario

Calculation of baseline value for SDG 9 – Industry, Innovation and Infrastructure

BSF, HHFF and IHFF Technologies		
Parameter	**Value applied**	**Remark**
Number of people trained on filters installation and maintenance	0	No persons were being trained by the project in the baseline scenario

Calculation of baseline value for SDG 13- Climate Action

BSF Technology		
Parameter	**Value applied**	**Remark**
Number of filters sold	0	No filters had been distributed by the project in the baseline
Number of workshops, seminars organized, and training-related opportunities held.	0	No persons were being trained by the project in the baseline scenario
$B_{b,y}$	4.0215	
Total baseline emissions	**17,179tCO$_2$e**	

HHFF Technology		
Parameter	**Value applied**	**Remark**
Number of filters sold	0	No filters had been distributed by the project in the baseline
Number of workshops, seminars organized, and training-related opportunities held	0	No persons were being trained by the project in the baseline scenario
$B_{b,y}$	3.2715	
Total baseline emissions	**10,379 tCO$_2$e**	

IHFF Technology		
Parameter	**Value applied**	**Remark**
Number of filters sold.	0	No filters had been distributed by the project in the baseline
Number of workshops, seminars organized, and training-related opportunities held	0	No persons were being trained by the project in the baseline scenario
$B_{b,y}$	0.00022368	
Total baseline emissions	**1,358 tCO$_2$e**	

Baseline Scenario Fuel Consumption Calculation

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

Where:

Parameter	Description	Value applied BSF	Value applied HHFF	Value applied IHFF
$N_{p,y}$	Number of people consuming water supplied by project scenario p through year y	1,752	1,662	106
C_j	Expressed as a percentage, this is the portion of users of the project technology j who in the baseline are already consuming safe water without boiling it	18%	18%	76%
$B_{b,y}$	Quantity of fuel consumed in baseline scenario b during the year y in tons.	4.6896	3.8150	0.00022
$Q_{p,y}$	Quantity of safe water in litres consumed in the project scenario p and supplied by project technology per person per day.	7 l/p/d	7 l/p/d	2.33 l/p/d
$Qp_{, raw,boil,y}$	Quantity of raw water boiled in the project scenario p per person per day.	0 l/p/d	0 l/p/d	0 l/p/d
$W_{b,y}$	Quantity of fuel in tons required to treat 1 litre of water using technologies representative of baseline scenario b during project year y, as per Baseline Water Boiling Test.	0.0004	0.0004	0.0004
$f_{NRB,b.y}$	Fraction of non-renewable biomass	0.92	0.92	0.92
$EF_{b, fuel, co2}$	CO2 emission factor of the wood fuel	112	112	112
$EF_{b, fuel, CH4}$	CH4 emission factor	GWP after	GWP after	GWP after

	of the wood fuel	01/01/2021 = 8.4(0.3*28)	01/01/2021 = 8.4 (0.3*28)	01/01/2021 = 8.4(0.3*28)
$EF_{b, fuel, N2O}$	N_2O emission factor of the wood fuel	GWP after 01/01/2021 = 1.06 (0.004*265)	GWP after 01/01/2021 = 1.06 (0.004*265)	GWP after 01/01/2021 = 1.06 (0.004*265)
$NCV_{b, fuel}$	Net calorific value of the fuel that is substituted or reduced	0.015	0.015	0.015
$BE_{,by}$	**Baseline emissions**	**17, 179 tCO_2e**	**10,379 tCO_2e**	**1,358 tCO_2e**

The total safe water consumed in the project scenario is the amount of safe water supplied by the project technology and consumed in the project scenario, plus the amount of raw water boiled after introducing the project technology (respectively represented above as $Q_{p,y}$ + $Q_{p,rawboil,y}$). As per the applied GS methodology, this total is assumed to be equivalent to the water boiled in the baseline.

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

Period	BSF Total Baseline Emissions (tCO2e)	HHFF Total Baseline Emissions (tCO2e)	IHFF total Baseline Emissions (tCO2e)	Combined Totals (tCO2e)
19/02/2021-27/12/2021	17,179	10,379	1,358	28,916

Total baseline emissions are: **28,916 tCO_2e**.

The following sources of information have been used in this context:

- /MR/
- /ER/
- /PDD/

Findings	☐	The baseline situation found compliant with the PDD No errors, omissions, misstatements, or incomplete information has been identified.
	☒	The verification team has identified mistakes in the baseline emissions calculation or the underlying calculation approaches.
	☒	In this context the following CARs, CLs, FARs have been raised:
		CAR 10; CAR 11
Conclusion	☐	No CARs / CLs / FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.
	☒	The raised CARs / CLs / FARs have been addressed appropriately. The PP has carried out the requested corrections. For details, please refer to Appendix 3.
	With appropriate corrections, it could conclude the baselines values have been estimated in accordance with SDG requirements as correct and the emissions are conservatively determined.	

	The equations applied in the calculations have been compared with the current approved PDD and the methodology. All equations, respective values have been assessed and the supporting documentation cross-checked. Respective findings could be closed out if all the findings are addressed fully and correctly by the PP thereafter.

D.4.2. Calculation of project value or estimation of project situation for each SDG Impact

Means of verification

Section E.2 of the MR has been reviewed for the project value and estimation of project situation for each SDG outcome.

The table demonstrates the project situation of each SDG in accordance to the latest approved PDD. The results are derived from the survey input (project monitoring survey and usage survey), Water Consumption Field Test (WCFT), Water Quality Testing database and employee records, and training records provided by Project implementer.

Calculation of project value for SDG 3 – Good health and wellbeing

BSF Technology

Parameter	Value applied	Source of data
Usage rate ($U_{p,y}$)	83.23%	GS 1078 Combined MSS and ERs calculations sheet, tab BSF Usage survey
Number of people. days consuming water supplied by project scenario p through year y($N_{p,y}$)	1,752	GS 1078 Combined MSS and ERs calculations sheet, tab BSF Inputs
Reduced incidence in water borne diseases	100%	GS 1078 Combined MSS and ERs calculations sheet, tab BSF Sustainable development
Reduced smoke levels	95%	GS 1078 Combined MSS and ERs calculations sheet, tab BSF Sustainable development
Reduced incidences of coughing.	95%	GS 1078 Combined MSS and ERs calculations sheet, tab BSF Sustainable development
Reduced incidences of itchy eyes	88%	GS 1078 Combined MSS and ERs calculations sheet, tab BSF Sustainable development

HHFF Technology

Parameter	Value applied	Source of data
Usage rate ($U_{p,y}$)	87.45%	GS 1078 Combined MSS and ERs calculations sheet, tab HHFF Usage survey
Number of people. days consuming water supplied by project scenario p through year y($N_{p,y}$)	1,425	GS 1078 Combined MSS and ERs calculations sheet, tab HHFF Inputs
Reduced incidence in water	93%	GS 1078 Combined MSS and ERs calculations sheet, tab HHFF

borne diseases		sustainable development
Reduced smoke levels	92%	GS 1078 Combined MSS and ERs calculations sheet, tab HHFF sustainable development
Reduced incidences of coughing.	93%	GS 1078 Combined MSS and ERs calculations sheet, tab HHFF sustainable development
Reduced incidences of itchy eyes	89%	GS 1078 Combined MSS and ERs calculations sheet, tab HHFF sustainable development

IHFF Technology

Parameter	Value applied	Source of data
Usage rate ($U_{p,y}$)	96.67%	GS 1078 Combined MSS and ERs calculations sheet, tab IHFF Usage survey
Number of people. days consuming water supplied by project scenario p through year y($N_{p,y}$)	106	GS 1078 Combined MSS and ERs calculations sheet, tab IHFF ER calculations IHFF
Reduced incidence in water borne diseases	100%	GS 1078 Combined MSS and ERs calculations sheet, tab IHFF Sustainable development
Reduced smoke levels	93%	GS 1078 Combined MSS and ERs calculations sheet, tab IHFF Sustainable development
Reduced incidences of coughing.	92%	GS 1078 Combined MSS and ERs calculations sheet, tab IHFF Sustainable development
Reduced incidences of itchy eyes	50%	GS 1078 Combined MSS and ERs calculations sheet, tab IHFF Sustainable development

Calculation of project value for SDG 6 – Clean Water and Sanitation

BSF Technology		
Parameter	**Value applied**	**Source of data**
QP,y	7 l/p/d	GS 1078 Combined MSS and ERs calculations sheet, tab BSF Q,py
$QP_{,raw\ boil}$	0 l/p/d	GS 1078 Combined MSS and ERs calculations sheet, tab BSF Qp,y
$QP_{,clean\ boil}$	0 l/p/d	GS 1078 Combined MSS and ERs calculations sheet, tab BSF Qp,y inputs
Volume of clean water consumed.	7 l/p/d	GS 1078 Combined MSS and ERs calculations sheet, tab BSF Q,py

Quality of treated water	100%	GS 1078 Combined MSS and ERs calculations sheet, tab Water Quality Analysis
Number of people attending workshops, seminars or trainings on water, hygiene, and sanitation management	380	GS 1078 Training records

HHFF Technology		
Parameter	**Value applied**	**Source of data**
QP,y	7 l/p/d	GS 1078 Combined MSS and ERs calculations sheet, tab Qp,y HHFF
$QP_{,raw\ boil}$	0 l/p/d	GS 1078 Combined MSS and ERs calculations sheet, tab Qp,y HHFF
$QP_{,clean\ boil}$	0 l/p/d	GS 1078 Combined MSS and ERs calculations sheet, tab Qp,y HHFF
Volume of clean water consumed.	7 l/p/d	GS 1078 Combined MSS and ERs calculations sheet, tab Qp,y HHFF
Quality of treated water	100%	GS 1078 Combined MSS and ERs calculations sheet, tab water quality HHFF
Number of people attending workshops, seminars or trainings on water, hygiene, and sanitation management	380	GS 1078 Training records

IHFF Technology		
Parameter	**Value applied**	**Source of data**
QP,y	2.33 l/p/d	GS 1078 Combined MSS and ERs calculations sheet, tab Qp,y IHFF
$QP_{,raw\ boil}$	0 l/p/d	GS 1078 Combined MSS and ERs calculations sheet, tab Qp,y IHFF
$QP_{,clean\ boil}$	0 l/p/d	GS 1078 Combined MSS and ERs calculations sheet, tab Qp,y IHFF
Quality of treated water	100%	GS 1078 Combined MSS and ERs calculations sheet, tab water quality analysis IHFF
Number of people attending workshops, seminars or trainings on water, hygiene, and sanitation management	380	GS 1078 Training records

Calculation of project value for SDG 8 – Decent Work and Economic Growth

BSF, HHFF and IHFF Technologies		
Parameter	**Value applied**	**Source of data**
Number of persons employed by the project.	61	GS 1078 Employment records
Change in number of jobs and positions for women or change in income and asset. distributions by region, ethnicity, religion, and socioeconomic groups	37 women and 31 youths	GS 1078 Employment records
Employment wages of people employed by the project.	Confidential, employment records provided	GS 1078 Employment records

Calculation of project value for SDG 9 – Industry, Innovation and Infrastructure

BSF, HHFF and IHFF Technologies		
Parameter	**Value applied**	**Source of data**
Number of people trained on filters installation and maintenance	380	GS 1078 Training summary

Calculation of project value for SDG 13 – Climate Action

BSF Technology		
Parameter	**Value applied**	**Source of data**
Number of filters sold.	2,952	BSF TSR and Sample frame 2021-2022, tab TSR
Number of workshops, seminars organized, and training related. opportunities held.	12 (11 trainings conducted on Household Water Treatment and Safe Storage (HWTS) training + 1 training on conducting monitoring surveys.	GS 1078 Training records
$B_{p,y}$	0 tonnes	GS 1078 Combined MSS and ERs calculations sheet, tab BSF 2021
Total project emissions	0 tCO_2e	GS 1078 Combined MSS and ERs calculations sheet 2021

HHFF Technology

Parameter	Value applied	Source of data
Number of filters sold	**2,212**	HHFF TSR and Sample frame 2021, tab TSR
Number of workshops, seminars organized, and training-related opportunities held	**12 (11 trainings conducted on Household Water Treatment and Safe Storage (HWTS) training + 1 training on conducting monitoring surveys.**	GS 1078 Training records
$B_{p,y}$	0 tonnes	GS 1078 Combined MSS and ERs calculations sheet 2021
Total project emissions	0 tCO_2e	GS 1078 Combined MSS and ERs calculations sheet, tab HHFF 2021

IHFF Technology		
Parameter	**Value applied**	**Source of data**
Number of filters sold.	**141**	IHFF TSR and Sample frame 2021, tab TSR
Number of workshops, seminars organized, and training-related opportunities held.	**12 (11 trainings conducted on Household Water Treatment and Safe Storage (HWTS) training + 1 training on conducting monitoring surveys.**	GS 1078 Training records
$B_{p,y}$	0 tonnes	GS 1078 Combined MSS and ERs calculations sheet, tab IHFF 2021
Total project emissions	**0**	GS 1078 Combined MSS and ERs calculations sheet 2021

Project Emissions are calculated as follows:

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

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

$B_{p,y}$ = Number of person.days x Project Fuel used to boil water (T/L) x Total volume of water boiled in project scenario (L/p/d)

BSF Technology		
Parameter	**Description**	**Value applied**
$N_{p,y}$	Number of person. days consuming water supplied by project scenario p	1,752

	through year y	
C_j	Expressed as a percentage, this is the portion of users of the project technology j or who in the baseline were already consuming safe water without boiling it	18%
$Qp_{, rawboil, y}$	Quantity of raw water boiled in the project scenario p per person per day	0 l/p/d
$Qp_{, cleanboil,y}$	Quantity of safe water boiled in the project scenario p per person per day	0l/p/d
$W_{p,y}$	Quantity of wood fuel or fossil fuel in tons required to treat 1 litre of water using technologies representative of the project scenario p during project year y	0.0004tonnes
$B_{p, y}$	Quantity of fuel consumed in project scenario p during the year y in tons	= (1-0.18) *2043* 0.0004*(0+0) =**0 tonnes**

HHFF Technology		
Parameter	**Description**	**Value applied**
$N_{p, y}$	Number of people. days consuming water supplied by project scenario p through year y	1,425
C_j	Expressed as a percentage, this is the portion of users of the project technology j or who in the baseline were already consuming safe water without boiling it	18%
$Qp_{, rawboil, y}$	Quantity of raw water boiled in the project scenario p per person per day	0 l/p/d
$Qp_{, cleanboil,y}$	Quantity of safe water boiled in the project scenario p per person per day.	0 l/p/d
$W_{p,y}$	Quantity of wood fuel or fossil fuel in tons required to treat 1 litre of water using technologies representative of the project scenario p during project year y	0.0004 tonnes
$B_{p, y}$	Quantity of fuel consumed in project scenario p during the year y in tons	= (1-0.18) *1,662* 0.0004*(0+0) **=0 tonnes**

IHFF Technology		
Parameter	**Description**	**Value applied**
$N_{p, y}$	Number of people. days consuming water supplied by project scenario p through year y	106

C_j	Expressed as a percentage, this is the portion of users of the project technology j or who in the baseline were already consuming safe water without boiling it	76%
$Qp_{, rawboil, y}$	Quantity of raw water boiled in the project scenario p per person per day	0 l/p/d
$Qp_{, cleanboil,y}$	Quantity of safe water boiled in the project scenario p per person per day	0 l/p/d
$W_{p,y}$	Quantity of wood fuel or fossil fuel in tons required to treat 1 litre of water using technologies representative of the project scenario p during project year y	0.0004tonnes
$B_{p, y}$	Quantity of fuel consumed in project scenario p during the year y in tons	= (1-0.76) *106*0.0004*(0+0) **=0 tonnes**

Calculation of Project Emissions

$PE_{,y} = B_{p,y}* ((f_{NRB,b,y}*EF_{b,fuel,CO2}) + (EF_{b,fuel,CH4} + EF_{b,fuel,N2O}) * NCV_{b,fuel}$

BSF Technology		
Parameter	**Description**	**Value applied**
$f_{NRB, b,y}$	Fraction of biomass used in year y for project scenario b that can be established as non-renewable biomass.	0.92
$EF_{b, fuel, CO2}$	CO2 emission factor of the wood fuel	112
$EF_{b, fuel, CH4}$	CH4 emission factor of the wood fuel	GWP =8.4(0.3*28)
$EF_{b, fuel, N2O}$	N_2O emission factor of the wood fuel	GWP = 1.06 (0.004*265)
$NCV_{b, fuel}$	Net calorific value of the fuel that is substituted or reduced	0.015
$B_{p,y}$	Quantity of fuel consumed in project scenario p during the year y in tons	0
PEy	Project emissions	**0 tCO_2e**

HHFF Technology		
Parameter	**Description**	**Value applied**
$f_{NRB, b,y}$	Fraction of biomass used in year y for project scenario b that can be established as non-renewable biomass.	0.92
$EF_{b, fuel, CO2}$	CO2 emission factor of the wood fuel	112

$EF_{b, fuel, CH4}$	CH4 emission factor of the wood fuel	GWP = 8.4(0.3*28)
$EF_{b, fuel, N2O}$	N_2O emission factor of the wood fuel	GWP = 1.06 (0.004*265
$NCV_{b, fuel}$	Net calorific value of the fuel that is substituted or reduced	0.015
$B_{p,y}$	Quantity of fuel consumed in project scenario p during the year y in tons	0
PEy	Project emissions	**0 tCO_2e**

IHFF Technology		
Parameter	**Description**	**Value applied**
$f_{NRB, b,y}$	Fraction of biomass used in year y for project scenario b that can be established as non-renewable biomass.	0.92
$EF_{b, fuel, CO2}$	CO2 emission factor of the wood fuel	112
$EF_{b, fuel, CH4}$	CH4 emission factor of the wood fuel	GWP =8.4(0.3*28)
$EF_{b, fuel, N2O}$	N_2O emission factor of the wood fuel	GWP = 1.06 (0.004*265
$NCV_{b, fuel}$	Net calorific value of the fuel that is substituted or reduced	0.015
$B_{p,y}$	Quantity of fuel consumed in project scenario p during the year y in tons	0
PEy	Project emissions	**0 tCO_2e**

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

Period	**BSF Total Project Emissions (tCO_2e)**	**HHFF total project Emissions (tCO_2e)**	**IHFF total project Emission (tCO_2e)**	**Combined Totals**
19/02/2021-27/12/2021	0	0	0	0

The following sources of information have been used in this context:

- /MR/
- /PDD/
- /ER/

Findings	☐	The baseline situation found compliant with the approved VPA-DD

		No errors, omissions, misstatements or incomplete information has been identified.
	☒	The verification team has identified several mistakes in the project situation.
	☒	In this context the following CARs, CLs, FARs have been raised:
		CAR 12; CL 10
Conclusion	☐	No CARs / CLs / FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.
	☒	The raised CARs / CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details, please refer to Appendix 3.
	After corrections, the calculations of project GHG emissions and SDG outcome are in accordance with the applied methodology and registered PDD.	

D.4.3. Calculation of leakage GHG emissions

Means of verification	Section E.3 of the MR is a review for the leakage emissions in project scenario. According to applied methodology, leakage will be assessed for any potential sources where applicable every two years using field surveys. Accordingly, the PP has assessed and reported on leakage in Section E.3 of the MR. The displaced baseline technologies are reused outside the project boundary in place of lower emitting technology or in a manner suggesting more usage than would have occurred in the absence of the project. There is minimal risk of the baseline technologies being reused outside the project boundary. The non-renewable biomass or fossil fuels saved under the project activity are used by non- project users who previously used lower emitting energy sources. The project significantly impacts the NRB fraction within an area where other CDM or VER project activities account for NRB fraction in their baseline scenario. The project population compensates for loss of the space heating effect of inefficient technology by adopting some other form of heating or by retaining some use of inefficient technology. By virtue of promotion and marketing of a new technology with high efficiency, the project stimulates substitution within households who commonly used a technology with relatively lower emissions, in cases where such a trend is not eligible as an evolving baseline. Therefore, no leakage will be considered according to the registered PDD. **Leakage Emissions** No leakage emissions are envisaged in the PDD LEy = 0 tCO_2e The following sources of information have been used in this context: • /MR/ • /ER/ • /PDD/ • /GSM/	
Findings	☒	Potential for any leakage emissions are considered to be too low (LE = 0).
	☐	Mistakes are identified
	☐	In this context the following CARs, CLs, FARs have been raised:
Conclusion	☒	No CARs / CLs / FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.

	☐	The raised CARs / CLs / FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details, please refer to Appendix 3.
	Potential for leakage is considered very low, according to the registered PDD hence taken as 0.	

D.4.4. Summary calculation of GHG emission reductions or net anthropogenic GHG removals by sinks

Means of verification

During the verification, Section E.4 of the MR is review for the respective SDGs listed are according to the PDD for the outcome for this monitoring period.

The VT assessed the outcome of SDG 13 by reviewing values in MR for this MP8 and crosschecking them against those obtained from project survey, WCFT, WQT, usage rate survey, TSR, Combined MSS and ER calculation sheet (also contains WQT and WCT results) and in the latest approved PDD. Further during physical site visit, the VT reviews and confirmed SDGs 3,6,8,9, and 13 with PD and randomly sampled users (HHs and institutions) aside from desktop reviews for BSF, HHFF, and IHFF technologies. For example, training records and employee records were reviewed to ascertain the number of people trained and their salaries and wages.

BSF Technology

Summary for ex-post values each SDG for BSF filter

SDG	SDG Impact	Baseline Estimate	Project Estimate	Net Benefit
SDG 3	**Good Health and well being**	Usage: 0% Np,y :0 Reduced incidence in water borne diseases: high incidence: 0% reduction. Reduced smoke levels: High smoke levels, 0% reduction. Reduced incidences of coughing: high incidences	Usage: 83.23% Np,y: 1,752 Reduced incidence in water borne diseases: 100% Reduced smoke levels: 95% Reduced incidences of coughing: 95% Reduced incidences of itchy eyes:88%	Usage:83.23% Np,y: 1,752 Reduced incidence in water borne diseases: 100% Reduced smoke levels: 95% Reduced incidences of coughing: 95% Reduced incidences of itchy eyes:88%

			of coughing, 0% reduction. Reduced incidences of itchy eyes:0%			
	SDG 6	**Clean water and sanitation**	QP,y: 0 $QP_{,raw\ boil}$: 0 $QP_{,clean\ boil}$: 0 Quality of treated water: 0% Volume of safe water consumed: 0l/p/d Number of people attending workshops, seminars or trainings on water, hygiene, and sanitation management: 0	Qp,y: 7l/p/d $QP_{,\ raw\ boil}$ 0 $QP_{,clean\ boil}$ 0 Quality of treated water: 100% Volume of safe water consumed: 7l/p/d Number of people attending workshops, seminars or trainings on water, hygiene, and sanitation management: 380 people were trained on **Household Water Treatment and Safe Storage (HWTS) training (ref: GS 1078 Training records summary)**	Qp,y: 7l/p/d $QP_{,\ raw\ boil}$ 0 $QP_{,clean\ boil}$: 0 Quality of treated water: 100% Volume of safe water consumed: 7l/p/d Number of people attending workshops, seminars or trainings on water, hygiene, and sanitation management):380 people were trained on **Household Water Treatment and Safe Storage (HWTS) training (ref: GS 1078 Training records summary)**	

	SDG 8	**Decent work and economic growth**	Number of persons employed by the project: 0 Change in number of jobs and positions for women or change in income and asset distributions by region, ethnicity, religion, and socioeconomic groups : 0 Employment wages of people employed by the project: 0	Number of persons employed by the project: 61 Change in number of jobs and positions for women or change in income and asset distributions by region, ethnicity, religion, and socioeconomic groups: 37 women and 31 youths Employment wages of people employed by the project: 26 people were employed in the filter distribution program. Total income generated is provided on '*confidential Employee Records summary-2021-22'*	Number of persons employed by the project: 61 Change in number of jobs and positions for women or change in income and asset distributions by region, ethnicity, religion, and socioeconomic groups: 37 women and 31 youths Employment wages of people employed by the project: 26 people were employed in the filter distribution program. Total income generated is provided on '*confidential Employee Records summary-2021-22'*	
	SDG 9	**Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation Target**	Number of people trained on filters installation and maintenance: 0	Number of people trained on filters installation and maintenance: 380 people were trained on **Household Water Treatment and Safe Storage (HWTS) training (ref: GS 1078 Training records**	Number of people trained on filters installation and maintenance:380 people were trained on **Household Water Treatment and Safe Storage (HWTS) training (ref: GS 1078 Training records summary)**	

			summary)	
SDG 13	**Take urgent action to combat climate change and its impacts**	Number of filters sold: 0 Number of workshops, seminars organized, and trainings (on installation, water and sanitation management and maintenance of the water filters): 0 $B_{b,y}$: 0	Number of filters sold: 2,952 Number of workshops, seminars organized, and trainings (on installation, water and sanitation management and maintenance of the water filters): 11 $B_{b,y}$: 4.0215	Number of filters sold: 2,952 Number of workshops, seminars organized, and trainings (on installation, water and sanitation management and maintenance of the water filters): 11 $B_{b,y}$: 4.0215
Total emission reductions	**Total emission reductions**	**17,179tCO₂e**	19/02/2021 – 27/12/2021 = 0 tCO2e **0 tCO₂e**	**Total: 13,613tCO₂e**

HHFF Technology
Summary for ex-post values each SDG for HHFF filter

SDG	SDG Impact	Baseline Estimate	Project Estimate	Net Benefit

	SDG 3	**Good Health and well being**	• Usage: 0% • Np,y :0 • Reduced incidence in water borne diseases: high incidence,0 % reduction. • Reduced smoke levels: High smoke levels, 0% reduction. • Reduced incidences of coughing: high incidences of coughing, 0% reduction. • Reduced incidences of itchy eyes: 0%	• Usage: 87.45% • $N_{p,y}$: 1,425 • Reduced incidence of water borne diseases: 93% • Reduced smoke levels: 92% • Reduced incidences of coughing: 93% • Reduced incidences of itchy eyes:89 %	• Usage: 87.45% • $N_{p,y}$: 1,425 • Reduced incidence of water borne diseases: 93% • Reduced smoke levels: 92% • Reduced incidences of coughing: 93% • Reduced incidences of itchy eyes:89%
	SDG 6	**Clean water and sanitation**	• QP,y: 0 • $QP_{,raw\ boil}$:0l/p/d • $QP_{,clean\ boil}$: 0l/p/d • Quality of treated water: 0% • Volume of safe water	• Qp,y: 7l/p/d • $QP_{,\ raw\ boil}$:0l/p/d • $QP_{,clean\ boil}$: 0l/pd • Quality of treated water: 100% • Volume of	• Qp,y: 7l/p/d • $QP_{,\ raw\ boil}$:0l/p/d • $QP_{,clean\ boil:}$ 0l/p/d • Quality of treated water: 100% • Volume of safe water consumed: 7l/p/d

			consumed: 0l/p/d • Number of people attending workshops, seminars or trainings on water, hygiene, and sanitation management:0	safe water consumed: 7l/p/d • Number of people attending workshops, seminars or trainings on water, hygiene, and sanitation management: 380	• Number of people attending workshops, seminars or trainings on water, hygiene, and sanitation management:380
	SDG 8	**Decent work and economic growth**	• Number of persons employed by the project: 0 • Change in number of jobs and positions for women or change in income and asset distributions by region, ethnicity, religion, and socioeconomic groups: 0 • Employment wages of people employed by the project: 0	• Number of persons employed by the project: 61 • Change in number of jobs and positions for women or change in income and asset distributions by region, ethnicity, religion, and socioeconomic groups: 37 women and 31 youths employed. • Employment wages of people employed by the project: These are confidential provided on employment records.	• Number of persons employed by the project:61 • Change in number of jobs and positions for women or change in income and asset distributions by region, ethnicity, religion, and socioeconomic groups: 37 women and 31 youths employed. • Employment wages of people employed by the project: These are confidential provided on employment

					records.
	SDG 9	**Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation Target**	• Number of people trained on filters installation and maintenance: 0	• 380 people were trained on **Household Water Treatment and Safe Storage (HWTS) training (ref: GS 1078 Training records summary)**	• 380 people were trained on **Household Water Treatment and Safe Storage (HWTS) training (ref: GS 1078 Training records summary)**
	SDG 13	**Take urgent action to combat climate change and its impacts**	• Number of filters sold: 0 • Number of workshops, seminars organized, and trainings (on installation, water and sanitation management and maintenance of the water filters): 0 • $B_{b,y}$: 0	• Number of filters sold: 2,212 • Number of workshops, seminars organized, and trainings (on installation, water and sanitation management and maintenance of the water filters): 11 trainings were conducted on Household **Water Treatment and Safe Storage (HWTS) training (ref: GS 1078 Training records**	• Number of filters sold: 2,212 • Number of workshops, seminars organized, and trainings (on installation, water and sanitation management and maintenance of the water filters): 11 trainings were conducted on Household **Water Treatment and Safe Storage (HWTS) training (ref: GS 1078 Training records summary)** • $B_{b,y}$: 3.2716

			summary) • $B_{b,y}$: 3.2716	
Total emission reductions	**Total emission reductions**	• **9,681 tCO_2e**	• **0 tCO_2e**	• **9,072 tCO_2e**

HHFF Technology

Summary for ex-post values each SDG for HHFF filter

SDG	SDG Impact	Baseline Estimate	Project Estimate	Net Benefit
SDG 3	Good Health and well being	• Usage: 0% • Np,y :0 • Reduced incidence in water borne diseases: high incidence,0% reduction • Reduced smoke levels: High smoke levels, 0% reduction. • Reduced incidences of coughing: high incidences of coughing, 0% reduction. • Reduced incidences of itchy eyes: 0%	• Usage: 96.67% • Np,y: 106 • Reduced incidence of water borne diseases: 100% • Reduced smoke levels: 93% • Reduced incidences of coughing: 92% • Reduced incidences of itchy eyes:50 %	• Usage: 96.67% • Np,y: 106 • Reduced incidence of water borne diseases: 100% • Reduced smoke levels: 93% • Reduced incidences of coughing: 92% • Reduced incidences of itchy eyes:50%
SDG 6	Clean water and sanitation	• QP,y: 0 • $Q_{P,raw\ boil}$:0l/p/d	• Qp,y: 2.33l/p/d • $Q_{P,\ raw}$	• Qp,y: 2.33l/p/d • $Q_{P,\ raw\ boil}$:0l/p/d

			• $Q_{P,clean\ boil}$: 0l/p/d • Quality of treated water: 0% • Volume of safe water consumed: 0l/p/d • Number of people attending workshops, seminars or trainings on water, hygiene and sanitation management: 0	$_{boil}$:0l/p/d • $Q_{P,clean\ boil}$: 0l/pd • Quality of treated water: 100% • Volume of safe water consumed: 2.33l/p/d • Number of people attending workshops, seminars or trainings on water, hygiene and sanitation management: 380 people were trained on Household Water Treatment and Safe Storage (HWTS) training (ref: GS 1078 Training records summary)	• $Q_{P,clean\ boil}$: 0l/p/d • Quality of treated water: 100% • Volume of safe water consumed: 2.33l/p/d • Number of people attending workshops, seminars or trainings on water, hygiene and sanitation management: 380 people were trained on Household Water Treatment and Safe Storage (HWTS) training (ref: GS 1078 Training records summary)
	SDG 8	Decent work and economic growth	• Number of persons employed by the project: 0 • Change in number of	• Number of persons employed by the project: 61 • Change in number of	• Number of persons employed by the project: 61 • Change in number of jobs

			jobs and positions for women or change in income and asset distributions by region, ethnicity, religion, and socioeconomic groups: 0 • Employment wages of people employed by the project: 0	jobs and positions for women or change in income and asset distributions by region, ethnicity, religion, and socioeconomic groups: 37 women and 31 youths employed. • Employment wages of people employed by the project: confidential, employment records provided as a support document ref '*confidential Employee Records summary-2021-22'.*	and positions for women or change in income and asset distributions by region, ethnicity, religion, and socioeconomic groups: 37 women and 31 youths employed. • Employment wages of people employed by the project confidential, employment records provided as a support document ref *'confidential Employee Records summary-2021-22'*
	SDG 9	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation Target	• Number of people trained on filters installation and maintenance: 0	• 380 people were trained on Household Water Treatment and Safe Storage (HWTS) training (ref: GS 1078 Training records summary)	• 380 people were trained on Household Water Treatment and Safe Storage (HWTS) training (ref: GS 1078 Training records summary)
	SDG 13	Take urgent action to combat climate change and its impacts	• Number of filters sold: 0 • Number of workshops,	• Number of filters sold: 141 • Number of workshops,	• Number of filters sold: 141 • Number of workshops, seminars

			seminars organized, and trainings (on installation, water and sanitation management and maintenance of the water filters): 0 • Bb,y: 0	seminars organized, and trainings (on installation, water and sanitation management and maintenance of the water filters): 11 trainings were conducted on people were trained on Household Water Treatment and Safe Storage (HWTS) training (ref: GS 1078 Training records summary • $B_{b,y}$: 0.00022	organized, and trainings (on installation, water and sanitation management and maintenance of the water filters):11trainings were conducted on people were trained on Household Water Treatment and Safe Storage (HWTS) training (ref: GS 1078 Training records summary) • $B_{b,y}$: 0.00022
	Total emission reductions	Total emission reductions	• 1,358 tCO_2e	• 0 tCO_2e	• 1,313tCO_2e

The following sources of information have been used in this context:

- /MR/
- /PDD/
- /ER/

Findings	☐	The determination of the SDG outcomes is compliant with the approved PDD The calculations of emissions reductions have been carried out in accordance with the formulae and methods described in the registered monitoring plan and the applied methodology. Any assumptions used in emission or removal calculations have been justified. Appropriate emission factors and other reference values have been correctly applied. No errors, miscalculations, omissions, misstatements or incomplete information have been identified.
	☒	During the verification, issues with impact on the ER calculation have been identified.
	☒	The following are identified in the course of this verification:
		CAR 13; CAR14
Conclusion	☐	No CARs / CLs / FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.
	☒	The raised CARs have been partially addressed. The PP has carried out the requested corrections, but further corrections are expected from the PP after which all the respective findings could be closed out. For details, please refer to Appendix 3.
	After appropriate corrections, the SDG benefits and emissions reductions need further corrections.	

D.4.5. Comparison of actual GHG emission reductions or net anthropogenic GHG removals by sinks with estimates in registered PDD

Means of verification

The verification team has checked the MR Section E.5 includes a comparison of actual values of the monitoring period with the estimations in the registered PDD for the respective SDG indicators.
The table demonstrates the actual value of each SDG result derived from the survey input, database Total Sales Records, training records, and Employee records provided by VPA implementer and ER calculations.

BSF

SDG	Values estimated in ex ante calculation of approved PDD for this monitoring period	Actual values achieved during this monitoring period
SDG 3	Usage: 80% • $N_{p,y}$:1,825 • Reduced incidence in water borne diseases: N/A • Reduced smoke levels: N/A • Reduced incidences of coughing: N/A • Reduced incidences of itchy eyes: N/A	• Usage: 83.23% • $N_{p,y}$: 1,752 • Reduced incidence of water borne diseases: 77% • Reduced smoke levels: 90% • Reduced incidences of coughing: 100% • Reduced incidences of itchy eyes:88%
SDG 6	• QP,y: 5l/p/d • QP,raw boil :0l/p/d • QP,clean boil :0 l/p/d • Quality of treated water: 100% • Volume of safe water consumed: 5 l/p/d • Number of people attending workshops, seminars or trainings on water, hygiene and sanitation management: N/A	• Qp,y: 7l/p/d • QP, raw boil 0 l/p/d • QP,clean boil 0 l/p/d • Quality of treated water: 100% • Volume of safe water consumed: 7l/p/d • Number of people attending workshops, seminars or trainings on water, hygiene and sanitation management:380
SDG 8	• Number of persons employed by the project: N/A • Change in number of jobs and positions for women or change in income and asset distributions by region, ethnicity, religion, and socioeconomic groups: N/A • Employment wages of people employed by the project: N/A	• Number of persons employed by the project: 61 • Change in number of jobs and positions for women or change in income and asset distributions by region, ethnicity, religion, and socioeconomic groups: 23 women and 31 youths employed • Employment wages of people employed by the project: 26 people were employed in the filter distribution program. Total income: confidential, provided as support document.
SDG 9	• Number of people trained on filters installation and maintenance: 0	• 380 people were trained on Household Water Treatment and Safe Storage (HWTS)
SDG 13:	• Number of filters sold: 7,424 • Number of workshops, seminars organized, and trainings (on installation, water and sanitation management and maintenance of the water filters): N/A • $B_{,by}$: 4.115375	• Number of filters sold: 2,952 • Number of workshops, seminars organized, and trainings (on installation, water and sanitation management and maintenance of the water filters): 11 trainings conducted on Household Water Treatment and Safe Storage (HWTS) • $B_{,by}$: 4.0215
Total emission reductions	30,635 tCO_2e	= 13,613 tCO_2e

HHFF

SDG	Values estimated in ex ante calculation of approved PDD for this monitoring period	Actual values achieved during this monitoring period
SDG 3	• Usage: 80% • $N_{p,y}$: 1,825 • Reduced incidence in water borne diseases: N/A • Reduced smoke levels: N/A • Reduced incidences of coughing: N/A • Reduced incidences of itchy eyes: N/A	• Usage: 87.45% • $N_{p,y}$: 1,425 • Reduced incidence of water borne diseases: 100% • Reduced smoke levels: 93% • Reduced incidences of coughing: 92% • Reduced incidences of itchy eyes:50%
SDG 6	• $Q_{p,y}$: 5l/p/d • $Q_{p,raw\ boil}$:0l/p/d • $Q_{p,clean\ boil}$:0 l/p/d • Quality of treated water: 100% • Volume of safe water consumed: 5 l/p/d • Number of people attending workshops, seminars or trainings on water, hygiene and sanitation management: N/A	• $Q_{p,y}$: 7 l/p/d • $Q_{p,raw\ boil}$ 0 l/p/d • $Q_{p,clean}$ boil 0 l/p/d • Quality of treated water: 98.6% • Volume of safe water consumed: 7 l/p/d • Number of people attending workshops, seminars or trainings on water, hygiene and sanitation management:380
SDG 8	• Number of persons employed by the project: N/A • Change in number of jobs and positions for women or change in income and asset distributions by region, ethnicity, religion, and socioeconomic groups: N/A • Employment wages of people employed by the project: N/A	• Number of persons employed by the project: 61 • Change in number of jobs and positions for women or change in income and asset distributions by region, ethnicity, religion, and socioeconomic groups: 37 women and 31 youths employed • Employment wages of people employed by the project: 26 people were employed in the filter distribution program. Total income generated: confidential, provided as a support document.
SDG 9	• Number of people trained on filters installation and maintenance: 0	• 380 people were trained on Household Water Treatment and Safe Storage (HWTS) training
SDG 13:	• Number of filters sold: 1,612 • Number of workshops, seminars organized, and trainings (on installation, water and sanitation management and maintenance of the water filters): N/A • $B_{,by}$: 4.115375	• Number of filters sold: 2,212 • Number of workshops, seminars organized, and trainings (on installation, water and sanitation management and maintenance of the water filters): 11 trainings conducted on Household Water Treatment and Safe Storage (HWTS) • $B_{,by}$: 3.2716
Total emission reductions	6,966 tCO_2e	= 9,072tCO_2e

IHFF

SDG	Values estimated in ex ante calculation of approved PDD for this monitoring period	Actual values[2] achieved during this monitoring period
SDG 3	• Usage: 80% • $N_{p,y}$: N/A • Reduced incidences of water borne diseases: N/A • Reduced smoke levels: N/A	• Usage: 96.67% • $N_{p,y}$: calculated individually for each institution • Reduced incidences of water borne diseases: 100% • Reduced smoke levels: 93%

[2] Whenever emission reductions are capped, both the original and capped values used for calculations must be transparently reported. Use brackets to denote original values.

		• Reduced incidences of coughing: N/A • Reduced incidences of itchy eyes: N/A	• Reduced incidences of coughing: 92% • Reduced incidences of itchy eyes:50%
	SDG 6	• $Q_{p, y}$: 1 l/p/d • $Q_{p, raw\ boil}$: 0 l/p/d • $Q_{P, clean\ boil}$: 0 l/p/d • Quality of treated water: 100% • Volume of safe water consumed: 1 l/p/d • Number of people attending workshops, seminars or trainings on water, hygiene and sanitation management: N/A	• $Q_{p,y}$: 2.33 l/p/d • $Q_{P, raw\ boil}$: 0 l/p/d • $Q_{P,clean\ boil}$: 0 l/p/d • Quality of treated water: 100% • Volume of safe water consumed: 2.33 l/p/d • Number of people attending workshops, seminars or trainings on water, hygiene and sanitation management 380 people were trained on Household Water Treatment and Safe Storage (HWTS) training
	SDG 8	• Number of persons employed by the project: N/A • Change in number of jobs and positions for women or Change in income and asset distributions by region, ethnicity, religion, and socioeconomic groups: N/A • Employment wages of people employed by the project: N/A	• Number of persons employed by the project: 61 • Change in number of jobs and positions for women or Change in income and asset distributions by region, ethnicity, religion, and socioeconomic groups: 37 women and 31 youths employed • Employment wages of people employed by the project: 26 people were employed in the filter distribution program. Total income: confidential, provided as a support document.
	SDG 9	• Number of people trained on filters installation and maintenance: 0	• 340 people were trained Household Water Treatment and Safe Storage (HWTS) training
	SDG 13:	• Number of filters sold: 367 • Number of workshops, seminars organized, and trainings (on installation, water and sanitation management and maintenance of the water filters): N/A • $B_{b,y}$: 0.00013056	• Number of filters sold: 141 • Number of workshops, seminars organized, and trainings (on installation, water and sanitation management and maintenance of the water filters): 11 trainings were conducted on Household Water Treatment and Safe Storage (HWTS) • $B_{b,y}$: 0.00022
	Total emission reductions	**4,209 tCO_2e**	**1,313 tCO_2e**

The following sources of information have been used in this context:

- /MR/
- /ER/
- /PDD/

Findings	☒	*Case 1:* The ex-ante estimated value was found to be proportionally higher than the ex-post determined value. No further action is deemed required.
	☐	*Case 2:* The ex-ante estimated value fits very good to the actually monitored value. No further justification is deemed required.
	☒	*Case 3:* The ex-ante estimated value was found to be proportionally lower than the ex-post determined value.
	☒	In this context the following CARs, CLs, FARs have been raised:
		CAR 14
Conclusion	☐	No CARs / CLs / FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.
	☐	The raised CARs have NOT been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details, please refer to Appendix 3.
	It could be concluded that the comparison in Section E.5 of the MR is not based on actual values and therefore reasonable values for comparison of values between the eighth	

	monitoring period and the ex-ante values in the PDD shall be report

D.4.6. Remarks on difference from estimated value in registered PDD

Means of verification	For this monitoring period, the actual emission reductions are **42.6%** lower than the estimated emission reductions in the registered PDD.	
Findings	☒	No further justification or explanation is deemed required as actual emissions of this MP do not exceed significantly the ex-ante calculated emission reductions (applicable for case 1 and 2).
	☐	*For case 3:* The PP has provided a related justification in the MR. The reasons for the increase are as follows:
	☐	In this context the following CARs, CLs, FARs have been raised:
Conclusion	☒	No CARs / CLs / FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.
	☐	The raised CARs / CLs / FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details, please refer to Appendix 3.
	It is concluded the ex-post emission reductions are lower than the ex-ante estimated values in the registered PDD. And the justification is reasonable.	

D.5. Safeguards Reporting

Means of validation	☒	Section F of MR, Safeguards reporting. There is one safeguarding principle that is in Section D of the registered PDD. PP has included parameter '*Gender equality and women rights'* as this parameter is relevant to the project and it will also be monitored throughout the project's crediting period. The PP has implemented the following in response to the safeguards principle above: • Both men and women employed by the project i.e., 38 men and 23 women. • Both men and women are involved in trainings training records have been provided as support documents During the site visit, the verification team carried out interviews with the HHs institutions alongside the PD and confirmed that both men and women are employed in the project. It VT also verified that both women and men are involved in trainings by cross-checking the responses from the interview against those reported in the employee records and training records. The following sources of information have been used in this context: • /MR/ • /PDD/ • /IM01/ • /IM02/
Findings	☒	Information is sufficient and appropriate.
	☐	In this context the following CARs, CLs, FARs have been raised:
Conclusion	☒	No CARs / CLs / FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.
	☐	The raised CARs / CLs / FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details, please refer to Appendix 3.
	The verification team could conclude the section is filled appropriately and that PP has taken appropriate measures to both genders are appropriately involved in the	

	project through reasonable representation in the employment and through project trainings on the use of the filter technologies.

D.6. Assessment of reported sustainable development co-benefits

Means of verification

The monitoring of the contribution to sustainable development during this monitoring period according to the sustainability monitoring plan has been verified as follows:

Sustainable development indicator	Chosen parameter	Frequency	Assessment by verification team
SDG 3 - Good health and well-being	- $U_{p,y}$ - Number of filters sold - Monitoring questionnaires for water borne diseases and air quality	Annually	This SDG Indicator is measured annually, by monitoring the projects implementation of the water purification units and their usage, contribution to reducing water borne diseases and improvements in air quality. From the monitoring results of the chosen parameters, the VVB can confirm that the program has contributed to achieving this SDG goal
SDG 6 - Clean water and sanitation	Training records	Annually	This parameter is measured annually, by monitoring the projects training programs and workshops on filter assembly, installation, use and maintenance. The PP could confirm and provided evidence of trainings conducted during this monitoring period. Therefore, the program has positively contributed to enhancing this SDG goal.
SDG 8 - Decent work and Economic growth	- Number employed - Wages - Income from partners (retailers)	Annually	This parameter is measured annually by monitoring the number of people employed by the project, their wages, and other business such as partner organizations (retailers). The PP could confirm and provided evidence of employment numbers for their permanent staff, their wages as well as for temporary staff. Therefore, the program has positively contributed to enhancing this SDG goal
SDG 9 - Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	- Number attending trainings, workshops and seminars on water filters	Annually	This parameter tracks knowledge transfer in installation, maintenance and replacement of filters. This is measured through the number of people attending such trainings in the program area. Therefore, the program has positively contributed to enhancing this SDG goal
SDG 13 - Climate Action	- Number of project technologies distributed - Usage rate ($U_{p,y}$) - Campaigns, workshops, and seminars	Annually	This SDG parameter is measured by the number of trainings and awareness campaigns on matters environment. This is also contributed to through the project clean technologies and usage rates. Therefore, the program has positively contributed to enhancing this SDG goal

During the site visit, the verifier has randomly selected local stakeholders to confirm that the correctness of the parameters reported by the PP. The verifier also interviewed the PP permanent and temporary staff on issues to do with training,

	recruitment, and wages The Verification Team along with onsite observation, objective evidence collections, data generation and recording analysis also considered the views obtained in these interviews while arriving at the verification opinion. The following sources of information have been used in this context: • /MR/ • /TR/ • /ER/ • /EMP/ • /XLS/ • /Onsite Interviews/	
Findings	☐	The sustainable monitoring parameter are monitored in line with the GS requirement and passport of this project. No adverse finding has been identified in the course of this verification.
	☒	The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context:
		- CAR 04, CAR 05, CAR 06
Conclusion	☐	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.
	☒	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details, please refer to Appendix 3.
	In summary, the verification team confirms that the project under the Gold Standard results in a positive contribution to local sustainable development.	

D.7. Grievance Mechanism/Continues Inputs

Means of verification	As confirmed through the onsite visit and interview with the local stakeholders, the Grievance Mechanism/Continuous Inputs has been in place. Section F.1 of the MR indicates the complaints mainly due to functionality, and how the issues were resolved.	
Findings	☒	The Grievance Mechanism/Continuous Inputs has been in place. No adverse finding has been identified in the course of this verification.
	☐	The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context:
		- N/A
Conclusion	☒	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.
	☐	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details, please refer to Appendix 3.
	All the methods of continuous input /grievance mechanism are confirmed during on-site investigation and interviews. There are no comments/complaints received from the stakeholders during this monitoring period of the project activity other than repair and warranty claims.	

D.8. Stakeholder Inputs and Legal Disputes

Means of validation	☒	The verification team has checked Sections G.1 to G.3 of the monitoring report for any complaints and issues raised. **Section G.1**: There were 90 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 provided. During the onsite visit to the HHs, no adverse comments were noted from the interviews. **Section G.2**: There are no mitigations were proposed for monitoring period. The VPA implementer is interviewed, and grievance report has been verified. **Section G.3**: There are no legal contest or dispute that has arisen with the project during the monitoring period.

		The following sources of information have been used in this context: • /MR/ • /PDD/ • /GT/ • /IM01/ • /IM02/
Findings	☒	Information is sufficient and appropriate.
	☐	In this context the following CARs, CLs, FARs have been raised:
Conclusion	☒	No CARs / CLs / FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.
	☐	The raised CARs / CLs / FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details, please refer to Appendix 3.
	The verification team could conclude the section is filled with appropriate information.	

SECTION E. Internal quality control

Before the submission of the final verification report a technical review of the whole verification procedure was carried out. The technical reviewers are competent GHG auditors being appointed for the scope this project falls under. The technical reviewers are not considered to be part of the verification team and thus not involved in the decision-making process up to the technical review.
As a result of the technical review process the verification opinion and the topic specific assessments as prepared by the verification team leader may have been confirmed or revised. Furthermore, reporting improvements might have been achieved.
After the successful technical review an overall (esp. procedural) assessment of the complete verification has been carried out by a senior assessor located in the accredited premises of TÜV NORD.
After this step the submission for requesting for issuance is conducted.

SECTION F. Verification opinion

Aqua Clara Foundation has commissioned the TÜV NORD JI/CDM Certification Program to carry out the Gold Standard 8th periodic verification of the project: "Aqua Clara Water Filtration Program in Kenya", with regard to the relevant requirements for GS project activities. The project activity enables rural, peri-urban and urban households and institutions/commercial entities to access affordable ACI water purification technologies as alternatives to boiling of drinking water using non-renewable biomass (firewood). Thus, the project contributes to sustainability development.

This verification covers the period from **19/02/2021 to 27/12/2021**, including both days.

As a result of this verification, the verifier confirms that:

- all operations of the project are implemented and installed as planned and described in the validated project design document.
- the monitoring plan is in accordance with the applied approved GS methodology, i.e., Technologies and Practices to Displace Decentralized Thermal Energy Consumption (TPDDTEC); 11/04/2011.
- the installed equipment essential for measuring parameters required for calculating emission reductions are calibrated appropriately.
- the monitoring report is in accordance with the relevant GS requirements.
- the project contributes to sustainability development.
- the monitoring system is in place and functional. The project has generated GHG emission reductions.

TÜV NORD JI/CDM CP further confirms that the project has achieved emission reductions in the above-mentioned reporting period as follows:

Emission reductions: **23,997 tCO_2e**

SECTION G. Certification statement

As a duly accredited UN and GS-VVB, TÜV NORD CERT confirms that the project

"Aqua Clara Water Filtration Program in Kenya"

registered under

GS-No. : 1078

has achieved emission reductions in accordance with all applicable requirements for registered GS4GG project activities during the current monitoring period

MP-No.: 8th

from: 19/02/2021

to: 27/12/2021

(Including both days) as follows:

Emission reductions:

Vintage	**19/02/2019 - 27/12/2021**
Total	**23,997 tCO_2e**

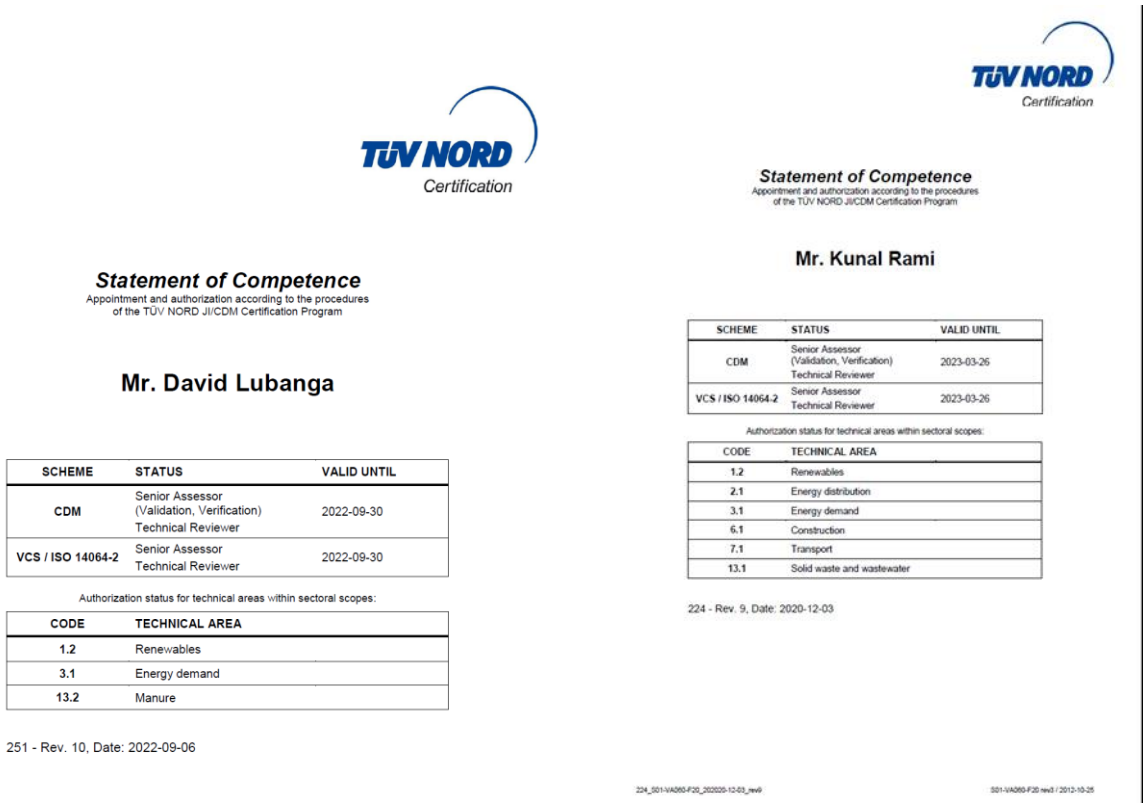
David Lubanga

Team Leader
Nairobi, 26/08/2022

Abbreviations

Abbreviations	Full Texts
BAU	Business as usual
BSF	Biosand Filter
CA	Corrective Action / Clarification Action
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CL	Clarification Request
CME	Coordinating / Managing Entity
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
CP	Certification Program
CPA	Component Project Activity
CPA-DD	Component Project Activity Design Document
CPI	Crediting Period I
DNA	Designated National Authority
EB	CDM Executive Board
EIA	Environmental Impact Assessment
ESIA	Environmental and Social Impact Assessment
FAR	Forward Action Request
GHG	Greenhouse gas(es)
GSCP	Global Stakeholder Consultation Process
IPCC	Intergovernmental Panel on Climate Change
HFF	Hollow Fiber Filters
HH	Household
HHFF	Household Hollow Fiber Filters
IHFF	Institutional Hollow Fiber Filters
KT	Kitchen Test
KPT	Kitchen Performance Test
LSC	Local Stakeholder Consultation
LSCR	Local Stakeholder Consultation Report
PD	Project Developer
PE	Project Entity
PoA	Programme of Activities
PoA-DD	Programme of Activities Design Document
PS	CDM project standard for programmes of Activities
QA/QC	Quality control/Quality assurance
SD	Sustainable Development
SDG	Sustainable Development Goal
SDI	Sustainable Development Indicator
TSR	Total Sales Record
UNFCCC	United Nations Framework Convention on Climate Change
VT	Validation/Verification Team
VVB	Validation and Verification Body
VVS	CDM validation and verification standard for programmes of Activities

Appendix 1. Competence of team members and technical reviewers



TÜV NORD Certification

Statement of Competence

Appointment and authorization according to the procedures of the TÜV NORD JI/CDM Certification Program

Mr. David Lubanga

SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification) Technical Reviewer	2022-09-30
VCS / ISO 14064-2	Senior Assessor Technical Reviewer	2022-09-30

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.2	Renewables
3.1	Energy demand
13.2	Manure

251 - Rev. 10, Date: 2022-09-06

TÜV NORD Certification

Statement of Competence

Appointment and authorization according to the procedures of the TÜV NORD JI/CDM Certification Program

Mr. Kunal Rami

SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification) Technical Reviewer	2023-03-26
VCS / ISO 14064-2	Senior Assessor Technical Reviewer	2023-03-26

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.2	Renewables
2.1	Energy distribution
3.1	Energy demand
6.1	Construction
7.1	Transport
13.1	Solid waste and wastewater

224 - Rev. 9, Date: 2020-12-03

Appendix 2. Documents reviewed or referenced

No.	Author	Reference	Title	References to the document	Provider
1.	GS	**/GSM/**	• Technologies and Practices to Displace Decentralized Thermal Energy Consumption (version 1.0) • Guidelines for carrying out usage surveys for projects implementing household water filtration technologies		Others
2	GS	**/GS4GG/**	Gold Standard for the Global Goals Principles & Requirements version 1.2	https://www.goldstandard.org/articles/gold-standard-global-goals	Others
3	UNFCCC	**/GT/**	Glossary "CDM terms" (version 10.0)	https://cdm.unfccc.int/Reference/Guidclarif/glos_CDM.pdf	Others
6	IPCC	**/IPCC/**	Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories: 1. Non-CO_2 Stationery Combustion 2. Emissions from Livestock and Manure Management (Chapter 10) 1. 3. IPCC Second Assessment Report – Climate Change 1995: A Report of the Intergovernmental Panel on Climate Change	https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_2_Ch2_Stationary_Combustion.pdf	Others
7	VVB	**/CPM/**	TÜV NORD JI / CDM CP Manual (incl. CP procedures and forms)		VVB
8	CME	**/PDD/**	Registered Project Design Document for GS PA: "Aqua Clara Water Filtration Program in Kenya" version 24.0, dated 25/05/2016		CME
10	GS	**/GSR/**	GS VPA Inclusion Review dated 16/06/2016		Others
12	CME	**/VAL/**	Validation Report for "Aqua Clara Water Filtration Program in Kenya" version 03.0, dated 20/02/2014		GS Registry
14	VPA Representative	**/MR/**	Monitoring Report version 1.0 dated 26/04/2022 Monitoring Report version 2.0 dated 23/06/2022 Monitoring Report version 3.0 dated 26/07/2022 Monitoring Report version 4.0 dated 25/08/2022		VPA Representative
15	VPA Representative	**/ER/**	• Confidential GS 1078 Combined MSS and ERs calculations sheet 2021 2022, version 2.0, dated 23/06/2022		VPA Representative

16	VPA Representative	**/DB/**	• Confidential IHF TSR and Sample Frame 2020-2021 • Confidential HHF TSR and sample frame 2021-2022 Final • Confidential BSF TSR and sample frame 2021-2022		VPA Representative
24	VPA Representative	**/PS/**	• GS 1078 Survey Pre-visit questionnaire • Household Monitoring Survey Template revised 2103 • Institutional Monitoring Survey Template-revised 2103		VPA Representative
25	VPA Representative	**/PR/**	• GS1078_GS4GG Performance Review_MP7_Round II		
26			• GS 1078 Survey Previsit questionnaire		
27			• Training attendance-Enumerators (confidential)		
28			• Institution receipts (confidential)		
29			• Household receipts (confidential)		
30			• Employment Record-2022 (revised) (confidential)		
31			• Employee Records summary-2021-22 (confidential)		
32			• BSF TSR and sample frame 2021-2022 (confidential)		
33			• ACK Customer complaints database (confidential)		
34			• HHF TSR and sample frame 2021-2022 Final (confidential)		
Websites					
35		**/gs/**	http://www.goldstandard.org/		Other
36		**/ipcc/**	www.ipcc-nggip.iges.or.jp		Other
37		**/rs/**	http://www.raosoft.com/samplesize.html		Other
39		**/ge/**	Google earth		Other

Appendix 3. Clarification requests, corrective action requests and forward action requests

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

FAR ID	**N/A**	**Section no.**	**-**	**Date:** 12/07/2021
Description of FAR				
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 at least some of the samples selected for the on-site visit include those samples that have been remotely monitored by the PD.				
Project participant response (1st round)				**Date:** 13/07/2021
Due to the ongoing covid and restrictions on travelling. DOE audit was still done remotely and hence the PP did not include those households that underwent remote audit by the VVB.				
Documentation provided by project participant (1st round)				
☐	Changes in the PDD	Section(s):	New version No.:	
☐	Changes in MR	Section(s):	New version No.:	
☐	Changes in XLS	Worksheet(s):	New version No.:	
☐	Other:			
DOE assessment (1st round)				**Date:** 13/07/2021
The restrictions due to COVID 19 pandemic has been extended due to which the VVB has conducted remote audit under current monitoring period as well. Hence, the FAR is open for next subsequent verification.				
Project participant response (2nd round)				**Date:** 06/06/2022
All surveys conducted were physical visits, we did not have any remote surveys done				
Documentation provided by project participant (2nd round)				
☐	Changes in the PDD	Section(s):	New version No.:	
☐	Changes in MR	Section(s):	New version No.:	
☐	Changes in XLS	Worksheet(s):	New version No.:	
☐	Other:			
DOE assessment (2nd round)				**Date:** 07/07/2022
The project proponent has confirmed that no remote monitoring occurred during this monitoring period. The VVB conducted a physical site visit and visited a sample of end-users selected through simple random sampling of the PP's usage sample (Acceptance Sampling), as demonstrated in Section C.3 & C.4 of this report.				
Conclusion *Tick the appropriate checkbox*	☐ Additional action should be taken (finding remains open) ☒ The finding is closed			

Table 2. CL from this verification

CL ID	**01**	**Section no.**	**A.1**	**Date: 06/06/2022**
Description of CL				
MR version 1.0, Section A.1 The MR includes figures of filters sold since the start date of the PA without adjusting for exclusions or drop-offs. 1. However, for IHFF, the PP has included an adjusted figure of 141. Consistency in reporting is requested 2. Further, the MR includes a sum of 141 filters for IHFF, against a calculated value of 148 filters. A clarification is required				
Project participant response (1st round)				**Date: 24/06/2022**

1. PP has provided the correct breakdown of HHFF filters sold for consistency. The total filters sold add up to 141.

2. The correct breakdown has been provided hence the total sum adds up to 141 filters sold.

Documentation provided by project participant (1st round)		
☐ Changes in the PoA-DD	Section(s):	New version No.:
☐ Changes in the CPA-DD	Section(s):	New version No.:
☒ Changes in MR	Section(s): A.1	New version No.: 2.0
☐ Changes in XLS	Worksheet(s):	New version No.:
☐ Other:		

VVB assessment (1st round)	**Date: 07/07/2022**

MR version 2.0, Section A.1

The MR includes figures of filters sold since the start date of the PA without adjusting for exclusions or drop-offs.

1. For IHFF, the PP has included and adjusted sales figures to add up to 141, which has been confirmed by the VVB.

2. Further, the PP has provided a breakdown of the IHFF sales to figures that coincide with those in the ER calculations-IHFF 2021 tab of the Combined MSS and ER calculation spreadsheet, having accounted for drop-offs. The VT has verified this adjustment.

Conclusion *Tick the appropriate checkbox*	☐ Additional action should be taken (finding remains open) ☒ The finding is closed

CL ID	**02**	**Section no.**	**A.1**	**Date: 06/06/2022**

Description of CL

MR version 1.0, Section A.1

It is stated in the MR that in 2021, the PP opted to remove all the BSFs sold in institutions from the TSR. The PP shall state the number removed for consistency with similar values reported elsewhere in the MR. The PP shall also add a table that reflects BSF changes made in 2021 and update section. A.1. a) applicable to MP8. Further, the PP shall clarify if the remaining 2,952 in Table 1 is due to this clean-up.

Project participant response (1st round)	**Date: 24/06/2022**

Under section A.1 the MR now includes the explanation of how many filters were removed for each filter technology and provided a justification for the current numbers.

Documentation provided by project participant (1st round)		
☐ Changes in the PoA-DD	Section(s):	New version No.:
☐ Changes in the CPA-DD	Section(s):	New version No.:
☒ Changes in MR	Section(s): A.1	New version No.: 2.0
☐ Changes in XLS	Worksheet(s):	New version No.:
☐ Other:		

VVB assessment (1st round)	**Date: 07/07/2022**

MR version 2.0, Section A.1

The PP has clarified that the BSFs initially installed were 3,215 and that the number was adjusted to 2,952 during the last verification since there was a clean-up exercise by Aqua Clara to remove any filters sold to institutions as well as non-functional filters where the household were no longer willing to repair.

Conclusion *Tick the appropriate checkbox*	☐ Additional action should be taken (finding remains open) ☒ The finding is closed

CL ID	**03**	**Section no.**	**C**	**Date: 06/06/2022**

Description of CL

MR Version 1.0, Section C

The PP in MR states, “All the vintages apart from 18/19 and 19/20 had less than 30 households and these were all interviewed during the surveys.” The PP shall clarify filter category for which these ages apply.

Project participant response (1st round)	**Date: 24/06/2022**

PP has included filter category as IHFF.		
Documentation provided by project participant (1st round)		
☐ Changes in the PoA-DD	Section(s):	New version No.:
☐ Changes in the VPA-DD	Section(s):	New version No.:
☒ Changes in MR	Section(s): C	New version No.: 2.0
☐ Changes in XLS	Worksheet(s):	New version No.:
☐ Other:		
VVB assessment (1st round)		**Date: 07/07/2022**
MR Version 2.0, Section C The PP has specified that in the IHFF technology category all the vintages, part from from 18/19 and 19/20, had less than 30 households and these were all interviewed during the surveys.		
Conclusion *Tick the appropriate checkbox*	☐ Additional action should be taken (finding remains open) ☒ The finding is closed	

CL ID	**04**	**Section no.**	**C**	**Date: 06/07/2022**
Description of CL				
MR Version 1.0, Section C The PP states that the usage survey in this monitoring period was held between 10/02/2022- 17/03/2022. Upon cross check against dates in the 'Usage Survey-HHFF' sheet of 'GS 1078 Combined MSS and ERs calculations sheet 2021 2022', the survey dates are from 21/01/2017 to 15/03/2022. The PP is required to clarify this inconsistency				
Project participant response (1st round)				**Date: 24/06/2022**
PP would like to clarify that there was a data entry error for the date indicated as 21/01/2017 as the enumerator indicated the filter installation date rather than the survey date. PP has rectified that error on the Usage survey -HHFF sheet GS 1028 Combined MSS and Ers calculations sheet 2021-2022 to show the correct date of the survey which is 24/02/2022. Usage survey dates hence remain as 10/02/2022-17/03/2022.				
Documentation provided by project participant (1st round)				
☐ Changes in the PoA-DD		Section(s):		New version No.:
☐ Changes in the VPA-DD		Section(s):		New version No.:
☐ Changes in MR		Section(s): C		New version No.: 2.0
☒ Changes in XLS		Worksheet(s):		New version No.:
☐ Other:				
VVB assessment (1st round)				**Date: 07/07/2022**
MR Version 2.0, section C The PP has clarified that the survey data stated as 21/01/2017 was a data entry error. The date has been amended to 24/02/2022 and is within the stated survey period of 10/02/2022 to 17/03/2022 in the MR. the VVB has verified that the PP has corrected the error.				
Conclusion *Tick the appropriate checkbox*	☐ Additional action should be taken (finding remains open) ☒ The finding is closed			

CL ID	**05**	**Section no.**	**C**	**Date: 06/06/2022**
Description of CL				

MR Version 1.0, Section C

Water Quality Test

1. It is stated that all the samples were tested and results recorded for each individual sample at a central field laboratory. The PP shall identify laboratory and clarify whether the laboratory is accredited to do water quality tests.
2. BSF: 100 HHs were used for BSF WQT, but the table shows some sample sizes of 258 HHs.
3. HHFF
    i. 100HHs are stated to have been use in WQT but the table shows more than 100 (202HHs). Please clarify how the value 202 was obtained.
    ii. The value of incidences of waterborne diseases is reported as 100%, different from the 93% in Table 1. It means 7% had incidence of waterborne diseases, or perceived the same. The PP is required to clarify this discrepancy in reporting.
4. IHFF

    Water quality analysis –IHFF' shows 100 samples were used for water quality monitoring. Please clarify the use of 117. The PP is also required to provide supporting evidence of the use of 115 as highly satisfied.

Project participant response (1st round)	**Date: 24/06/2022**

1. PP would like to clarify that the project Implementer designated a room in their office where all the water samples were tested and recorded. The offices acted as a field laboratory where they reduced the chances of contamination.

2. As demonstrated on the water quality analysis sheet, there were 100 water samples selected for collection of water samples and testing ref 'water quality analysis – BSF columns J to M. PP would like to clarify that whereas all the 258 households participated in the qualitative questions about water quality,100 of households further had their water tested. Please see a summary below of the questions asked;

Water Quality Tests

1. Has any member of your household suffered from any incidence of water-borne disease in the last 30 days?
   Yes_____ No_____

2. How would you rate your level of satisfaction from using the filter? (Tick only **ONE** option)
   Highly satisfied_____
   Moderately satisfied _____
   Not satisfied _____

3. Do you practice hygiene practices such as regular hand washing and safe storage of water to ensure the filtered water is safe for consumption?
   Yes_____ No_____

The questions above provided insights on the quality of water for all the selected end-users even though some did not have their water samples collected. These questions were asked for three filter technologies.

3. HHFF

   iii. 100HHs are stated to have been use in WAT but the table shows more than 100 (202HHs). Please clarify how the value 202 was obtained.

As demonstrated on the water quality analysis sheet, there were 100 water samples selected for collection of water samples and testing (*ref 'water quality analysis – HHFF)* columns K to N. PP would like to clarify that whereas all the 202 households participated in the qualitative questions about water quality,100 of households further had their water tested. Please see a summary below of the questions asked;

Water Quality Tests

1. Has any member of your household suffered from any incidence of water-borne disease in the last 30 days?
Yes_____ No_____

2, How would you rate your level of satisfaction from using the filter? (Tick only **ONE** option)
Highly satisfied_____
Moderately satisfied _____
Not satisfied _____

3. Do you practice hygiene practices such as regular hand washing and safe storage of water to ensure the filtered water is safe for consumption?
Yes_____ No_____

   iv. The value of incidences of waterborne diseases is reported as 100%, different from the 93% in Table 1. It means 7% had an incidence of waterborne diseases, or perceived the same. The PP is required to clarify this discrepancy in reporting.

PP would like to clarify that during this period, none of the households had water-borne diseases. On the other hand, the sustainable development section (*ref Sustainable Development - HHFF)*, are responses comparing the baseline scenario and project scenario. For instance, 93% reported a decrease water-borne diseases since filter installation as compared to the baseline scenario, 6% said there was no change. To avoid confusion, PP has amended table 1 to 100% as per water quality results (*ref Water Quality Analysis -HHFF tab)*

Documentation provided by project participant (1st round)		
☐ Changes in the PoA-DD	Section(s):	New version No.:
☐ Changes in the VPA-DD	Section(s):	New version No.:
☒ Changes in MR	Section(s): C	New version No.: 2.0
☐ Changes in XLS	Worksheet(s):	New version No.:
☐ Other:		

VVB assessment (1st round)	Date: 07/07/2022

MR Version 2.0, section C

1. The PP has clarified that the project Implementer had a room at their offices designated for testing and recording of all the water samples. The PP has explained that having the special room for laboratory activities in place of a field laboratory reduced the chances of water samples getting contaminated.

2. The PP has clarified by demonstrating the applied difference of a sample of 100 and from a sample of 258 in the water analysis survey: 100 water samples were selected for collection of water samples and testing referenced as 'water quality analysis – BSF columns J to M'. The PP has also explained that 258 sample size represents households who participated in the qualitative questions about water quality, among which 100 of households further had their water tested as demonstrated by water quality test questionnaire sample questions.

3. HHFF

i. The PP has demonstrated per the water quality analysis sheet that there were 100 water samples selected for collection of water samples and testing (ref 'water quality analysis – HHFF) columns K to N. The PP has clarified that whereas all the 202 households participated in the qualitative questions about water quality, as sample size of 100 HHs further had their water tested.

ii. The PP has clarified the use of 100% as the figure representing incidences of waterborne diseases reported, different from the 93% in Table 1 by explaining that during this period, none of the households had water-borne diseases. the PP explained that the sustainable development section (ref Sustainable Development - HHFF), are responses comparing the baseline scenario and project scenario. For instance, 93% reported a decrease water-borne diseases since filter installation as compared to the baseline scenario, 6% said there was no change. However, the PP has amended table 1 to reflect 100% as per water quality results (ref Water Quality Analysis - HHFF tab) to avoid any form of confusion and misinterpretation.

4. IHFF

The PP has clarified that that the reporting of 115 and 117 value is accurate per water quality analysis sheet referenced as 'water quality analysis – IHFF' columns K to N. The PP explains that there were 100 water samples selected for collection of water samples and testing (ref 'water quality analysis – IHFF) columns K to N. Further, the PP has made it clear that whereas all the 117 institutions participated in the qualitative questions about water quality,100 of households further had their water tested. The VT has confirmed that this reporting is accurate and consistent.

Project participant response (2nd round)	Date: 26/07/2022

As per the applied methodology for the projects (Technologies and Practices to Displace Decentralized Thermal Energy Consumption 11/04/2011, version 1.0[3]) pg 41 the requirements for testing water are; *Water quality testing may be conducted either in the field or by transportation to laboratories; in all cases the testing approach must be described fully in monitoring reports, credible 3rd party endorsement must be included, and the appropriateness of the testing approach must be justified. In cases where the effectiveness of project technologies may be indicated reliably through proxies, such as reliable evidence that they are being maintained and used correctly in accordance with manufacturers' or installers', then the FTs may capture such evidence of water quality in pace of chemical and biological indicator tests. Again, credible 3rd party endorsement of FT reports are required.* Based on the above, field tests are acceptable. Further, on the MR, the PP has described how testing was done and provided 3rd party endorsements, see pg 57 of the MR.

Documentation provided by project participant (2nd round)

[3]https://www.goldstandard.org/articles/gold-standard-global-goals

☐	Changes in the PoA-DD	Section(s):	New version No.:
☐	Changes in the VPA-DD	Section(s):	New version No.:
☒	Changes in MR	Section(s): C	New version No.: 4.0
☐	Changes in XLS	Worksheet(s):	New version No.:
☐	Other:		

VVB assessment (2nd round) **Date: 28/07/2022**

MR Version 4.0, section C

1. The PP has clarified on why carrying out water quality testing in a controlled environment (room designated for laboratory activities) is acceptable per TPDDTEC v1.0 water quality testing requirements. The PP states that the applied methodology provides for carrying out WQT either in fields or by transportation to laboratories, where the testing approach must be described fully in monitoring reports, credible 3rd party endorsement must be included, and the appropriateness of the testing approach must be justified in all of these cases. The VT has verified that the PP adopted a credible 3rd party endorsement: CAWST – Centre for Affordable Water and Sanitation Technology. CAWST9 is simple in nature and acknowledges the use of the available wide range of good testing kits and products in the commercial market which the PP leveraged in performing the WQT. Also, the 3rd party recognizes the challenge of carrying out filed tests in remote areas, which allows water characteristics be measured on fresh samples without contamination, and recommends setting up a small laboratory to provide a clean and controlled environment. The VT has further confirmed that the PP used a 3M plates, a practical method for rapid assessment of the bacterial quality of water and demonstrated that the 3M Petri film water testing approach is appropriate by stating its benefits. The PP outlines that the approach has 80% productivity, greater consistency, and has an effective coliform count and offers 85% confirmed coliform result within 24hours. The CAWST9 recommended 3M Petri film is simple to use by trainees by Aqua Clara and ClimateCare. The VT has verified that the use of a special room (controlled environment) for testing of water samples collected from sampled households and institutions is thus acceptable.

Conclusion *Tick the appropriate checkbox*	☐ Additional action should be taken (finding remains open) ☒ The finding is closed

CL ID	**06**	**Section no.**	**D.1**	**Date: 06/06/2022**

Description of CL

MR Version 1.0, Section D.1

1. GWP for CH_4

   The source of data is as 'Literature Review'. The PP shall clarify from which source from is the literature reviewed for the parameter value.

2. GWP for N_2O

   Data is stated as 'Literature Review.' The PP shall clarify the source from which the literature was reviewed for the parameter.

Project participant response (1st round) **Date: 24/06/2022**

1. The source of the GWP for CH4 is from the Gold Standard Rule Update 03/06/2021 *'APPLICABILITY OF GLOBAL WARMING POTENTIAL FOR GOLD STANDARD FOR THE GLOBAL GOALS PROJECTS[4]'.* This has also been indicated on the MR.

2. The source of the GWP for N2O is from the Gold Standard Rule Update 03/06/2021 *'APPLICABILITY OF GLOBAL WARMING POTENTIAL FOR GOLD STANDARD FOR THE GLOBAL GOALS PROJECTS'.* This has also been indicated on the MR.

Documentation provided by project participant (1st round)

☐	Changes in the PoA-DD	Section(s):	New version No.:

[4] https://globalgoals.goldstandard.org/ru-2020-applicability-of-global-warming-potential-for-gold-standard-for-the-global-goals-projects/

☐	Changes in the VPA-DD	Section(s):	New version No.:
☒	Changes in MR	Section(s): D.1	New version No.: 2.0
☐	Changes in XLS	Worksheet(s):	New version No.:
☐	Other:		

VVB assessment (1st round) **Date: 07/07/2022**

MR Version 2.0, section D.1

1. The PP has clarified by revealing the source of literature for the value of GWP for CH_4 as 'Gold Standard Rule Update 03/06/2021 'APPLICABILITY OF GLOBAL WARMING POTENTIAL FOR GOLD STANDARD FOR THE GLOBAL GOALS PROJECTS'.
2. The PP has clarified that the source of literature of GWP for for N_2O is 'Gold Standard Rule Update 03/06/2021 'APPLICABILITY OF GLOBAL WARMING POTENTIAL FOR GOLD STANDARD FOR THE GLOBAL GOALS PROJECTS'.

Conclusion *Tick the appropriate checkbox*	☐ Additional action should be taken (finding remains open) ☒ The finding is closed

CL ID	**07**	**Section no.**	**D.2**	**Date: 06/06/2022**

Description of CL

MR Version 1.0, Section D.2

1. Number of people attending training/ workshops on maintenance of the water filters, water hygiene and sanitation management.

   In the additional comment, the training was held on 9th and 10th Feb 2022. The PP shall clarify the location of and why the trainings were undertaken outside the MP.

2. $LE_{,p,y}$

   It is stated that the parameter was sourced from 'Literature Review'. The PP shall clarify the source from which the literature bearing the parameter value reviewed.

3. $B_{b,y}$

   The parameter values are reported as BSF: 4.6896, HHFF: 3.8150, and HFF:0.00022, which match those of the previous MP7. The PP shall clarify whether the unchanged values are because the WCFT, & $N_{p,y}$ are not done this time around.

Project participant response (1st round) **Date: 24/06/2022**

1. An additional training was held in preparation for the monitoring survey exercise. The training was conducted by Sally Gakii ClimateCare, with the Aqua Clara team leader for the monitoring exercise, Josephine Orare and Risper Mose and 11 enumerators. The training was held on 9th and 10th Feb 2022 at Aqua Clara Kenya offices. This training was held outside the MP as Aqua Clara requested to start field surveys in February of 2022 as having the surveys done before then was a challenge on their end. As a result, the monitoring survey training had to be organised around the dates when the field surveys were meant to commence

2. PP has changed the source of the data for parameter LE,p,y. Also, refer to section E.3 of the MR for clarity.

3. The PP confirms that the reason as to why parameter Bb,y has not changed is because WCFT and N,py were monitored during the last period.

Documentation provided by project participant (1st round)

☐	Changes in the PoA-DD	Section(s):	New version No.:
☐	Changes in the VPA-DD	Section(s):	New version No.:
☒	Changes in MR	Section(s): D.2	New version No.: 2.0
☐	Changes in XLS	Worksheet(s):	New version No.:
☐	Other:		

VVB assessment (1st round) **Date: 07/07/2022**

MR Version 2.0 section D.2

1. The PP has clarified that an additional training was done to prepare the survey team for the monitoring survey exercise and that Sally Gakii of ClimateCare conducted the trained along with the Aqua Clara team: Josephine Orare and Risper Mose and 11 enumerators. Further, the PP has stated that the training was held on 9th and 10th Feb 2022 at Aqua Clara Kenya offices. It is clear that training was undertaken outside the MP following an approved request by Aqua Clara to start field surveys in February of 2022 as having the surveys done before then would be challenging on their end. As a result, the monitoring survey training had to be organised around the dates when the field surveys were meant to commence. The VT is contented with the PP's response.

2. The PP has amended the data source for parameter LE,p,y from 'literature review' to 'Sources established by following Leakage emissions Section of the methodology'. This is in order.

3. The PP has clarified that the parameter $B_{b,y}$ has not changed because WCFT and $N_{,py}$ were monitored during the last period.

Conclusion *Tick the appropriate checkbox*	☐ Additional action should be taken (finding remains open) ☒ The finding is closed

CL ID	**08**	**Section no.**	**D.2**	**Date: 06/06/2022**
Description of CL				
MR Version 1.0, Section D.2 Water Quality Testing Procedure It is stated that water quality tests were done together with the monitoring surveys for the monitoring period between 19th February 2020 to 18th February 2021. These dates coincide with those of the last MP and shows that WQT is done biennially when it is actually done annually. A clarification is required.				
Project participant response (1st round)				**Date: 24/06/2022**
This was an error. PP has amended the dates to reflect the correct period, 19th February 2021 to 27th Dec 2021. This has also been included on the Monitoring Report.				
Documentation provided by project participant (1st round)				
☐ Changes in the PoA-DD		Section(s):		New version No.:
☐ Changes in the VPA-DD		Section(s):		New version No.:
☒ Changes in MR		Section(s): D.2		New version No.: 2.0
☐ Changes in XLS		Worksheet(s):		New version No.:
☐ Other:				
VVB assessment (1st round)				**Date: 07/07/2022**
MR Version 2.0, section D.2 The PP has clarified that the period for which water quality tests were done, stated as 19th February 2020 to 18th February 2021, was an error and has been amended to the correct dates, i.e., 19th February 2021 to 27th Dec 2021. The PP has also reported the amendment in the MR to reflect the correct dates.				
Conclusion *Tick the appropriate checkbox*	☐ Additional action should be taken (finding remains open) ☒ The finding is closed			

CL ID	**09**	**Section no.**	**D.4**	**Date: 06/06/2022**
Description of CL				

MR Version 1.0, Section D.4

Determination of sample size

1. The sample size for BSF is reported as 312, 231 for HHFF, and 120 for IHFF in MR. However, these values are inconsistent with those reported in respective spreadsheet as follows: 310 is the sample size for BSF as per 'Sample frame' Excel sheet in the 'BSF TSR and sample frame 2021-2022' Excel spreadsheet; 231 is the sample size for HHFF as reported in 'Sample frame' Excel sheet in the 'HHF and sample frame 2021-2022' Excel spreadsheet; and 120 sample size for IHFF is reported in the 'Sample frame' sheet in the 'IHF TSR and Sample Frame 2020-2021' Excel spreadsheet. The PP shall elucidate this variation.
2. The WCFT samples for this MP8 are given as 33HHs for BSF, 35HHs for HHFF, and 22 for IHFF. These values are different from those of MP7, which should not because WCFT is done biennially. The PP shall clarify why WCFT values for this MP are different from those of MP7.
3. The Usage survey samples for BSF is reported as 312 and 212 for HHFF, which are inconsistent with those values in their respective spreadsheets. In Usage Survey-BSF' tab in 'GS 1078 Combined MSS and ERs calculations sheet 2021 2022', the value for BSF is 310, while the value reported for the HHFF is 231 per 'Usage Survey-HHFF' tab in the same database. The PP shall clarify this inconsistency.

Project participant response (1st round)	**Date: 24/06/2022**

1. PP had erroneously indicated the sample size for BSF as 312. PP has thus amended this to 310 as per Sample frame' Excel sheet in the 'BSF TSR and sample frame 2021-2022' Excel spreadsheet.
2. The values for WCFT are the same as those for MP7 as per the excel sheet *'confidential GS 1078 Combined MSS and ERs calculations sheet 2021 2022'.* The samples are as follows; 22 for IHFF ref tab *(WCFT- IHFF 2020-2021 results)*, 35 for HHFF ref tab (*WCFT- HHFF 2020-2021* results,) and 33 for the BSF ref tab (WCFT – BSF 2020-2021 results).
3. PP has corrected the values reported for Usage Survey to be in line with -BSF' tab in 'GS 1078 Combined MSS and ERs calculations sheet 2021 2022', and the value reported for the HHFF is 231 as per 'Usage Survey-HHFF' tab in the same database

Documentation provided by project participant (1st round)			
☐	Changes in the PoA-DD	Section(s):	New version No.:
☐	Changes in the VPA-DD	Section(s):	New version No.:
☒	Changes in MR	Section(s): D.4	New version No.: 2.0
☐	Changes in XLS	Worksheet(s):	New version No.:
☐	Other:		

VVB assessment (1st round)	**Date: 07/07/2022**

MR, Version 2.0, section D.4

1. The PP has clarified that an error occurred when reporting the sample size for BSF as 312. The PP has thus amended the value to 310 as per Sample frame' Excel sheet in the 'BSF TSR and sample frame 2021-2022' Excel spreadsheet and the VT has confirmed.
2. The PP has clarified that the values for WCFT are the same as those reported during MP7 as per the excel sheet *'confidential GS 1078 Combined MSS and ERs calculations sheet 2021 2022'* as follows; 22 for IHFF ref tab *(WCFT- IHFF 2020-2021 results)*, 35 for HHFF ref tab (*WCFT- HHFF 2020-2021* results,) and 33 for the BSF ref tab (WCFT – BSF 2020-2021 results).
3. The VT has confirmed that the PP has amended the values reported in MR for Usage Survey to be in line with -BSF' tab in 'GS 1078 Combined MSS and ERs calculations sheet 2021 2022'; hence, the value reported for the HHFF is 231 as per 'Usage Survey-HHFF' tab in the same database.

Conclusion *Tick the appropriate checkbox*	☐ Additional action should be taken (finding remains open) ☒ The finding is closed

CL ID	**10**	**Section no.**	**E.2**	**Date: 03/06/2022**
Description of CL				

MR Version 1.0, Section E.2 BSF technology The $N_{p,y}$ value reported in MR is 2,042, which is inconsistent with the value 2,048 applied in the in BSF 2021 cell C26 in calculating B,p,y even though the result is 0 (zero). HHFF technology The $N_{p,y}$ value reported in MR is 1,662, which is inconsistent with the value 1,666 applied in 'HHFF 2021' tab cell C26 though the result is 0(zero).

Project participant response (1st round)	**Date: 24/06/2022**
The values reported for parameter $N_{p,y}$ on cell 26 has been corrected to 1,752. There is consistency between the MR and the database. The value reported on tab HHFF 2021 has been corrected to 1,425. This is now consistent with what is reported in the MR. On both tabs, PP had stated 366 days as the number of days in the year as opposed to 313 which were the actual number of days for this period.	

Documentation provided by project participant (1st round)			
☐	Changes in the PoA-DD	Section(s):	New version No.:
☐	Changes in the VPA-DD	Section(s):	New version No.:
☒	Changes in MR	Section(s): E.2	New version No.: 2.0
☐	Changes in XLS	Worksheet(s):	New version No.:
☐	Other:		

VVB assessment (1st round)	**Date: 07/07/2022**
MR Version 2.0, section E.2 BSF technology The PP has adjusted the $N_{p,y}$ value reported for BSF in MR from 2,042 to 1,752. HHFF technology The PP has amended the value of $N_{p,y}$ for HHFF from 1,662 to 1,425. The VT have confirmed that the value reported in MR is now consistent with that recorded in the HHFF 2021' tab cell C26 in Excel spreadsheet.	

Conclusion *Tick the appropriate checkbox*	☐ Additional action should be taken (finding remains open) ☒ The finding is closed

Table 3. CAR from this verification

CAR ID	**01**	**Section no.**	**A.1**	**Date: 06/06/2022**
Description of CAR				
MR version 1.0, A.1 The number of IHFF sold for the period 19/06/2018-18/06/2019: 48 filters, and 19/06/2019-18/02/2020: 40 filters are not in line with those of MP7. MP7 indicates 69 IHFF sold for the period 19/06/2018-18/06/2019 and 61 IHFF for the period 19/06/2019-18/02/2020. Hence, the total number of these filters is not correct.				
Project participant response (1st round)				**Date: 24/06/2022**

As explained in section A.1 on the table summary provided, there were some filters that were removed from the sales record. As such, the total number of filters reported from IHFF changed as follows;

Technology	Total sales by 2021	Filters removed	No. of filters after adjustment
BSF	3,215	263	2,952
IHFF	192	51	141

19/06/2014-18/06/2015: 18 filters
19/06/2015-18/06/2016: 5 filters
19/06/2016-18/06/2017: 15 filters
19/06/2017-18/06/2018: 17 filters
19/06/2018-18/06/2019: 48 filters
19/06/2019-18/02/2020: 38 filters
Total: 141

Documentation provided by project participant (1st round)		
☐ Changes in the PoA-DD	Section(s):	New version No.:
☐ Changes in the CPA-DD	Section(s):	New version No.:
☒ Changes in MR	Section(s): A.1	New version No.: 2.0
☐ Changes in XLS	Worksheet(s):	New version No.:
☐ Other:		

VVB assessment (1st round)	**Date: 07/07/2022**

MR Version 2.0, section A.1

The PP has corrected the value of the IHFF sales to reflect a total of 141 as reported in the MR. The PP has clarified that the changes in the sales of IHFF is attributed to the elimination of some filters from the sales record due to non-functionality, and the VVB confirmed that this is so.

Conclusion *Tick the appropriate checkbox*	☐ Additional action should be taken (finding remains open) ☒ The finding is closed

CAR ID	**02**	**Section no.**	**A.1**	**Date: 03/06/2022**

Description of CAR

MR version 1.0, A.1

The PP states that the total GHG emission reductions achieved in this monitoring period (between 19/02/2021 and 27/12/2021) is 26,348 tCO_2e for all the project technologies, when 26,349 is recorded in Table 1 of MR. Consistency in reporting is prayed since 26,343 tCO_2e is reported in consolidated values in the spreadsheet.

Project participant response (1st round)	**Date: 24/06/2022**

PP has amended the number of days claimed for VERs from 365 to 313 which should be covering the current crediting period. The ERs claimed are 22,385 tCO2e.

Documentation provided by project participant (1st round)		
☐ Changes in the PoA-DD	Section(s):	New version No.:
☐ Changes in the CPA-DD	Section(s):	New version No.:
☒ Changes in MR	Section(s): A.1	New version No.: 2.0
☐ Changes in XLS	Worksheet(s):	New version No.:
☐ Other:		

VVB assessment (1st round)	**Date: 07/07/2022**

MR Version 2.0, section A.1

The PP has amended the number of days claimed for Ers from 365 to 313 which covers the current crediting period. The PP also states that the Ers claimed are 22,385 tCO2e, which is inconsistent with a total of 23,997tCO_2e per the sum of the ERs reported in MR for each technologies BSF, HHFF, and IHFF in table 1 and 2. The PP clarify why there is inconsistency in reporting.

Project participant response (2nd round)	**Date: 07/07/2022**

PP had erroneously stated the figure 22,385. After amending the the number of days claimed for Ers from 365 to 313, the total amount of Ers claimed is 23,997tCO_2e.

Documentation provided by project participant (2nd round)		
☐ Changes in the PoA-DD	Section(s):	New version No.:
☐ Changes in the CPA-DD	Section(s):	New version No.:

☒	Changes in MR	Section(s): A.1	New version No.: 3.0
☐	Changes in XLS	Worksheet(s):	New version No.:
☐	Other:		

VVB assessment (2nd round)	**Date: 20/07/2022**
MR Version 3.0, section A.1 The PP has corrected the reported value of achieved Ers from all the technologies to 23,997tCO_2e. the VVB has confirmed from the MR that this is so.	
Conclusion *Tick the appropriate checkbox*	☐ Additional action should be taken (finding remains open) ☒ The finding is closed

CAR ID	**03**	**Section no.**	**A.4**	**Date: 06/06/2022**
Description of CAR				
MR version 1.0, A.4 The PP has not included the end date of the crediting period. As per the GS4GG MR v. 1.1 template guide, the PP shall state the start date, end date and length of the crediting period.				
Project participant response (1st round)				**Date: 24/06/2022**
Section A.4 of the MR has the start date, length and the end- date of the crediting period.				
Documentation provided by project participant (1st round)				
☐	Changes in the PoA-DD	Section(s):		New version No.:
☐	Changes in the CPA-DD	Section(s):		New version No.:
☒	Changes in MR	Section(s): A.4		New version No.: 2.0
☐	Changes in XLS	Worksheet(s):		New version No.:
☐	Other:			
VVB assessment (1st round)				**Date: 03/07/2022**
MR Version 2.0, section A.4 The PP has included the start data, end date, and the period of the crediting period as required by the GS4GG MR v. 1.1 template guide. The VVB has confirmed that the start date of the CP is 28/12/2011 and the end date of the CP is 27.12.2021, a period of 10 years fixed.				
Conclusion *Tick the appropriate checkbox*	☐ Additional action should be taken (finding remains open) ☒ The finding is closed			

CAR ID	**04**	**Section no.**	**C**	**Date: 06/06/2022**
Description of CAR				
MR version 1.0, C The number of households sampled: 15 does not reflect that value recorded in table 3 (13).				
Project participant response (1st round)				**Date: 24/06/2022**
The number of households interviewed has been corrected to 13 to be in line with table 3.				
Documentation provided by project participant (1st round)				
☐	Changes in the PoA-DD	Section(s):		New version No.:
☐	Changes in the CPA-DD	Section(s):		New version No.:
☒	Changes in MR	Section(s): C		New version No.: 2.0
☐	Changes in XLS	Worksheet(s):		New version No.:
☐	Other:			
VVB assessment (1st round)				**Date: 03/07/2022**
MR Version 2.0, section C The PP has corrected the number of households interviewed from 15 to 13.				
Conclusion *Tick the appropriate checkbox*	☐ Additional action should be taken (finding remains open) ☒ The finding is closed			

CAR ID	**05**	**Section no.**	**C**	**Date: 06/06/2022**
Description of CAR				

MR version 1.0, C

Table 4: The total population and sample size recorded are inaccurate. The number of HHs interviewed (18) cannot be more than the sample size (17) for the age group 14/15.

Project participant response (1st round)		**Date: 24/06/2022**
The number of filter sales were amended from 17 to 18 as per the sales records. The number of Households interviewed is now in line with the total number of filters sold.		
Documentation provided by project participant (1st round)		
☐ Changes in the PoA-DD	Section(s):	New version No.:
☐ Changes in the CPA-DD	Section(s):	New version No.:
☒ Changes in MR	Section(s): C	New version No.: 2.0
☐ Changes in XLS	Worksheet(s):	New version No.:
☐ Other:		
VVB assessment (1st round)		**Date: 07/07/2022**
MR Version 2.0, section C The PP has corrected the value of sample size from 17 to 18 for the age group 14/15 to match the number of HHs interviewed.		
Conclusion *Tick the appropriate checkbox*	☐ Additional action should be taken (finding remains open) ☒ The finding is closed	

CAR ID	**06**	**Section no.**	**C**	**Date: 03/06/2022**
Description of CAR				
MR version 1.0, C The value of BSF non-users in MR (17.77%) is inconsistent with 16.77% recorded in 'Usage Survey BSF' sheet. Also, the IHHF value of users (96.67%) and non-users (3.33%) do not match with records of the 'Usage Survey-IHFF' sheet of "GS 1078 Combined MSS and ERs calculations sheet 2021 2022', which shows a calculated usage of 175.76%. please clarify the use of 96.67% usage rate. Further, clarify why you have adopted a calculation formula for IHFF usage different from the formula used for BSF and HHFF usage rates calculations.				
Project participant response (1st round)				**Date: 24/06/2022**
The value of BSF non-users has been amended in MR from 17.77% to 16.77% to be consistent with 'Usage Survey BSF sheet. Tab 'Usage Survey – IHFF' sheet of "GS 1078 Combined MSS and ERs calculations sheet 2021 2022', tab D 133 shows usage as 96.67. The formula in the same tab has been amended to be the same as that used to calculate the usage for the BSF.				
Documentation provided by project participant (1st round)				
☐ Changes in the PoA-DD		Section(s):		New version No.:
☐ Changes in the CPA-DD		Section(s):		New version No.:
☒ Changes in MR		Section(s): C		New version No.: 2.0
☐ Changes in XLS		Worksheet(s):		New version No.:
☐ Other:				
VVB assessment (1st round)				**Date: 07/07/2022**
MR Version 2.0, section C The PP has amended the value of BSF non-users from 17.77% to 16.77% and hence consistent with 'Usage Survey BSF sheet's figures. The PP has also amended the calculation formula in the Tab 'Usage Survey – IHFF' sheet of "GS 1078 Combined MSS and ERs calculations sheet 2021 2022', tab D 133, to confirm to the formula used to calculate the usage for BSF. The correct usage rate value of 96.67% was achieved. However, the usage for the HHFF technology in 'Usage Survey HHFF' tab has been adjusted from 87.88% to 87.45%. The PP shall clarify this inconsistency and/or amendment.				
Project participant response (2nd round)				**Date: 07/07/2022**

PP would like to clarify that the usage survey for the HHFF technology in 'Usage Survey HHFF' tab has been adjusted from 87.88% to 87.45% since the initial calculations had an error. The total number of users is 202/231 = 87.45% ref column AI and tab D 242 under the usage survey tab of HHFF. Further, PP has amended usage value for the HHFF on the MR for consistency.		
Documentation provided by project participant (2nd round)		
☐ Changes in the PoA-DD	Section(s):	New version No.:
☐ Changes in the CPA-DD	Section(s):	New version No.:
☒ Changes in MR	Section(s): C	New version No.: 3.0
☒ Changes in XLS	Worksheet(s):	New version No.:
☐ Other:		
VVB assessment (2nd round)		**Date: 20/07/2022**
MR Version 3.0, section C The PP has clarified that the adoption of usage value of 87.45% for HHFF technology is due to the application of correct of number of users, 202 out of the 231 sampled. The VVB has confirmed that the 88.45% is the obtained usage value in the Usage Survey HHFF tab cell D 242.		
Conclusion *Tick the appropriate checkbox*	☐ Additional action should be taken (finding remains open) ☒ The finding is closed	

CAR ID	**07**	**Section no.**	**D.1**	**Date: 06/06/2022**
Description of CAR				
MR version 1.0, D.1 The value of $EF_{b,fuel,CH4}$ in MR 0.03 tCH_4/TJ is inconsistent with the value 0.300 tCH_4/TJ in the approved VPA-DD dated 25/05/2016 and Table 2.5 of the '2006 IPCC Default emission factors' which shows 300kg/TJ: https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_2_Ch2_Stationary_Combustion.pdf. The PP shall clarify the use of 0.03 tCH_4/TJ in the calculations.				
Project participant response (1st round)				**Date: 24/06/2022**
The use of 0.03 tCH4/TJ in the calculations was due to conversion of 300kg/TJ provided on : https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_2_Ch2_Stationary_Combustion.pdf to t/tj.				
Documentation provided by project participant (1st round)				
☐ Changes in the PoA-DD		Section(s):		New version No.:
☐ Changes in the CPA-DD		Section(s):		New version No.:
☒ Changes in MR		Section(s): D.1		New version No.: 2.0
☐ Changes in XLS		Worksheet(s):		New version No.:
☐ Other:				
VVB assessment (1st round)				**Date: 03/07/2022**
MR Version 2.0, section D.1 The PP's explanation of the conversion of the value of $EF_{b,fuel,CH4}$ from 300 kg/TJ to 0.03 tCH_4/TJ is unsatisfactory since 300kg converts to 0.3t and not to 0.03t —1,000kg =1 tone.				
Project participant response (2nd round)				**Date: 07/07/2022**
PP had made an error in the explanation above as the correct value is 0.3. Further, on the Additional comment section of the table for $EF_{b,fuel,CH4}$ an explanation of how this was converted has been included in the MR section D.1				
Documentation provided by project participant (2nd round)				
☐ Changes in the PoA-DD		Section(s):		New version No.:
☐ Changes in the CPA-DD		Section(s):		New version No.:
☒ Changes in MR		Section(s): D.1		New version No.: 3.0
☐ Changes in XLS		Worksheet(s):		New version No.:
☐ Other:				
VVB assessment 2nd round)				**Date: 20/07/2022**
MR Version 3.0, section D.1 The PP has clarified that their response to the request above about the parameter $EF_{b,fuel,CH4}$ contained an erroneous explanation. The VVB has verified that the PP has corrected the value to 0.3t/TJ as required per the approved VPA-DD.				
Conclusion *Tick the appropriate checkbox*	☐ Additional action should be taken (finding remains open) ☒ The finding is closed			

CAR ID	08	Section no.	D.2	Date: 06/06/2022

Description of CAR

MR version 1.0, D.2

1. $U_{p,y}$

   The value for HHFF in MR, 96.67% is inconsistent with the value in 'Usage Survey-HHFF' sheet of combined MSS and ERs calculations spreadsheet (87.88%). Also, the value 87.88% for IHFF is inconsistent with the value reported in 'Usage Survey-IHFF', 96.67%).

2. $N_{p,y}$

   The value applied of the parameter for IHFF is stated 'Calculations have been provided on the ERs sheet tab ER- calculation- IHFF'. The PP shall provide a correct referencing or value of person days where possible.

3. Reduction in water borne diseases such as skin rash, diarrhea, foot sores, parasites, eye problems and other water borne diseases.

   The parameter value for HHFF is reported as 100% as in 'Water Quality Analysis-HHFF' sheet. The PP shall clarify the use of 93% in MR. The PP shall further clarify the reported value, 118 for IHFF in the additional comment, which is consistent with the value, 117 reported in the Water Quality Test under IHFF in MR.

4. Air Quality

   The PP shall complete the reporting of the parameter air quality of BSF, HHFF, and IHFF as per the transition annex. Further, the PP shall further clarify the reported value, 118 for IHFF in the additional comments, which is consistent with the value, 117 reported in the Water Quality Test under IHFF.

Project participant response (1st round)	Date: 24/06/2022

1. The values for usage for both HHFF and IHFF have been corrected on the MR to be consistent with the value on the 'Usage Survey-HHFF' sheet of combined MSS and ERs calculations spreadsheet (87.88%) for HHFF and the usage value for IHFF reported on the MR, 97.67% is now consistent with the value reported in 'Usage Survey-IHFF' tab.
2. Correct reference for parameter Np,y is now provided as ERs sheet '*confidential GS 1078 Combined MSS and ERs calculations sheet 2021 2022'* tab ER- calculation- IHFF .BE_Person_day_IHFF
3. Reduction of water-borne diseases is now corrected to 100% to be in line with the 'Water Quality Analysis-HHFF' sheet. 93% was used as reported on the Sustainable development tab 'Sustainable Development – IHFF' which is based on a comparison between the baseline situation before they bought the filter and the current situation when they have the filters. The total number of end-users interviewed is 118 which was corrected on the water quality section of the MR.
4. Air Quality reporting has been completed as per the transitioning annex. Also, the value of 118 is consistent with the actual number of end-users interviewed.

Documentation provided by project participant (1st round)

☐	Changes in the PoA-DD	Section(s):	New version No.:
☐	Changes in the CPA-DD	Section(s):	New version No.:
☒	Changes in MR	Section(s): D.2	New version No.: 2.0
☐	Changes in XLS	Worksheet(s):	New version No.:
☐	Other:		

VVB assessment (1st round)	Date: 06/07/2022

MR Version 2.0, section D.2

1. The PP has corrected the values for usage for both HHFF from 96.67% to 87.88% and for IHFF from 87.88% to 97.67%. The VVB has confirmed that the values are now consistent with the values in the 'Usage Survey-HHFF' sheet for HHFF and in the 'Usage Survey-IHFF' tab for IHFF.

   However, usage rate for HHFF reported in MR, 87.88% is inconsistent with the value, 87.45%. the PP shall tender their clarification for this inconsistency.

2. The PP has provided the correct reference for the parameter $N_{p,}y$ as ERs sheet '*confidential GS 1078 Combined MSS and ERs calculations sheet 2021 2022'* tab ER- calculation- IHFF .BE_Person_day_IHFF

3. The PP has amended the value reported of reduction of water-borne diseases from 93% to 100% and the VVB has confirmed that the value is at per with the 'Water Quality Analysis-HHFF' sheet. The PP has further clarified that the 93% was used as reported on the Sustainable development tab 'Sustainable Development – IHFF' which is based on a comparison between the baseline situation before they bought the filter and the current situation when they have the filters. The PP has also corrected the total number of end-users interviewed as 118, and the VVB has confirmed the value in the water quality section of the MR.

4. The PP has reported the parameter 'Air Quality' as per the transitioning annex. The VVB has confirmed this amendment in the MR. The PP has also corrected the value of the sample sizes for BSF, HHFF and IHFF technologies from 117 to 118. The VVB has established that the value 118 is consistent with the actual number of end-users interviewed.

Project participant response (2nd round)	**Date: 07/07/2022**
1. PP has amended the value for usage for HHFF from 87.88% to 87.45% as per the excel sheet calculation. The same has been amended on the MR.	

Documentation provided by project participant (2nd round)			
☐	Changes in the PoA-DD	Section(s):	New version No.:
☐	Changes in the CPA-DD	Section(s):	New version No.:
☒	Changes in MR	Section(s): D.2	New version No.: 3.0
☒	Changes in XLS	Worksheet(s): Combined MSS and ER calculation; Usage Survey-HHFF	New version No.: 3.0
☐	Other:		

VVB assessment (2nd round)	**Date: 20/07/2022**
MR Version32.0, section D.2 The PP has clarified that the amended usage rate of 88.45% for HHFF is due to the adjusted number of users to 202 out of the 231 sample size used during the Usage survey. The VVB has confirmed in the MR and Usage HHFF tab of Combined MSS and ER spreadsheet that HHFF usage rate 88.45% is the correct value.	

Conclusion *Tick the appropriate checkbox*	☐ Additional action should be taken (finding remains open) ☒ The finding is closed

CAR ID	**09**	**Section no.**	**D.3**	**Date: 06/06/2022**
Description of CAR				

MR version 1.0, D.3

1. BSF
   i. The value obtained of the reduction in occurrences of water borne diseases from the previous for BSF is reported as 7% in MR, which is consistent with the value reported in MP7 MR as 77%.
   ii. No value reported for MP7 for BSF for 'no change' (%) for 'reduced smoke levels in the house'
2. HHFF
   i. The value of 8% reported in MR for 'No Change' for reduced smoke levels in the households in MP7 is inconsistent with the value reported in MP7 MR. the value reported for MP7 is 7. Further, the value reported for 'N/A' for MP7 in this MP8 MR (0%) is inconsistent with the one reported in MP7 (1%).
   ii. The 8% reported for 'No Change' in reduced Incidents of coughing in this MR is not consistent with the 11% reported value in MP7 MR.
   iii. The reported 'Yes' value of 89% for 'reduced incidences of Itchy Eyes' is inconsistent with that reported in MP7 MR. The value reported in the last monitoring period is 87%. Further, the 'no change' value of 10% is inconsistent with that reported in MP7. The MP7 value is reported as 12%.
3. IHFF
   i. The $N_{p,y}$ value obtained from last monitoring for is reported as 106.42, which is inconsistent with that reported in MP7. $N_{p,y}$ reported in MR MP7 is 65.05.
   ii. The number of people employed in MP7 is 52 as reported in MR, while the parameter value is reported as 54 in this MP8 MR.
   iii. The 'Yes' value obtained from last monitoring period is reported as 5%, which is inconsistent with the value reported in MP7 MR as 50%.

Project participant response (1st round)	**Date: 24/06/2022**

1. BSF

i. The PP has amended the value obtained of the reduction in occurrences of water-borne diseases from 7% to 77%. The VVB has ascertained that the value is consistent with the value reported in MP7.

ii. The 8% has been reported for MP7 for BSF for 'no change' (%) for 'reduced smoke levels in the house' and is consistent with the values reported in MR for the MP7.

2. HHFF

i. The value reported in MR for 'No Change' for reduced smoke levels in the households in MP7 has been corrected to from 8% to 7%. Further, the value reported for 'No' for MP7 has been corrected to 1% for consistency. This has been confirmed by the VVB that the changes have been effected in the MR.

ii. The value reported for 'No Change' in reduced Incidents of coughing in this MR has been corrected from 8% to 11% reported value in MP7 MR.

iii. The reported 'Yes' value has been corrected accordingly from 89% to 87% for 'reduced incidences of Itchy Eyes' for consistency with that reported in MP7 MR. Further, the PP has corrected the 'no Change' from 10% to 12%. The VVB has confirmed that the values in reported the MR match those reported in MR MP 7.

3. IHFF

i. The $N_{p,y}$ value obtained from last monitoring has been corrected to 65.05 for MR.

ii. The number of people employed in MP7 has been corrected to 52.

iii. The 'Yes' value obtained from this period for Reduced incidences of Itchy Eyes:has been corrected from the value reported as 5%, to 50% ref '*Sustainable Development – IHFF'*.

Documentation provided by project participant (1st round)		
☐ Changes in the PoA-DD	Section(s):	New version No.:
☐ Changes in the CPA-DD	Section(s):	New version No.:
☒ Changes in MR	Section(s): D.3	New version No.: 2.0
☐ Changes in XLS	Worksheet(s):	New version No.:
☐ Other:		
VVB assessment (1st round)		**Date: 03/07/2022**

MR Version 2.0, section D.3

BSF

i. The value obtained of the reduction in occurrences of water-borne diseases has been corrected to 77% for consistency with the value reported in MP7.

ii. 8% has been reported for MP7 for BSF for 'no change' (%) for 'reduced smoke levels in the house'.

iii. The PP has reported a value of 1,752 for $N_{p,y}$. The PP clarified the use of this value and has been verified confirmed by the VVB. this change and how the value was obtained.

2. HHFF

i. The value reported in MR for 'No Change' for reduced smoke levels in the households in MP7 has been corrected to 7%. Further, the value reported for 'No' for MP7 has been corrected to 1% for consistency.

ii. The value reported for 'No Change' in reduced Incidents of coughing in this MR has been corrected to 11% reported value in MP7 MR.

iii. The reported 'Yes' value has been corrected to 87% for 'reduced incidences of Itchy Eyes' for consistency with that reported in MP7 MR. Further, the 'no has been amended to 12%.

3. IHFF

i. The $N_{p,y}$ value obtained from last monitoring has been corrected from 106.42 to 65.05 for MR.

ii. The PP has corrected the number of people employed in MP7 from 54 to 52.

iii. The PP has corrected the value of 'Yes' obtained from this period for Reduced incidences of Itchy Eyes' from 5%, to 50% as per '*Sustainable Development – IHFF'* tab.

Conclusion *Tick the appropriate checkbox*	☐ Additional action should be taken (finding remains open) ☒ The finding is closed

CAR ID	**10**	**Section no.**	**E.1**	**Date: 06/06/2022**
Description of CAR				

MR version 1.0, E.1

SDG 13: BSF technology

i. The value of the parameter $B_{b,y}$ reported as 4.1153 in MR vary from that reported in the 'BSF Inputs' tab in the 'GS 1078 Combined MSS and ERs calculations sheet 2021 2022' spreadsheet, as 4.68963798.

ii. The total baseline emissions

Total baseline emissions in MR is reported as 30,635tCO_2e, which is inconsistent with the reported value, 18,738 tCO_2e in the 'Consolidated ERs 2020-2021' tab in the 'GS 1078 Combined MSS and ERs calculations sheet 2021 2022'.

SDG 13: HFF technology

i. The parameter $B_{b,y}$ value reported in MR as 4.1153 differs from that reported as 3.815077333 in the 'HHFF Inputs' tab in the 'confidential GS 1078 Combined MSS and ERs calculations sheet 2021 2022' spreadsheet. The PP shall clarify where/how 4.1153 was obtained.

ii. The value of total baseline emissions reported as 6,966 tCO_2e in MR creates a variance from the reported value, 11,320 in the 'Consolidated ERs 2020-2021' tab in the 'confidential GS 1078 Combined MSS and ERs calculations sheet 2021 2022' spreadsheet.

SDG 13: IHFF technology

i. The $B_{b,y}$ value in MR is reported as 0.0001306, inconsistent with the value, 0.00022368 reported in cell C10 of 'BE_Person_day IHFF' sheet in 'GS 1078 Combined and ERs calculations sheet 2021 2022'.

ii. There is inconsistency between the value of the total baseline emissions report as 4,210 tCO2e in the MR and the value reported as 1,267 in the 'Consolidated ERs 2020-2021' tab and in 'Er Calculations-IHFF 2021' sheet column F in the 'confidential GS 1078 Combined MSS and ERs calculations sheet 2021 2022' spreadsheet for all the 141 institutional users. The PP shall clarify why this inconsistency exists.

Project participant response (1st round)	**Date: 24/06/2022**

MR version 1.0, E.1

SDG 13: BSF technology

i. The value of the parameter $B_{b,y}$ has been amended to 4.0215 as per 'BSF Inputs' tab in the 'GS 1078 Combined MSS and ERs calculations sheet 2021 2022' spreadsheet.

ii. The total baseline emissions

iii. Total baseline emissions in MR has been reported as 16,024tCO_2e, which is consistent with 'Consolidated ERs 2020-2021' tab in the 'GS 1078 Combined MSS and ERs calculations sheet 2021 2022'.

SDG 13: HFF technology

i. The parameter $B_{b,y}$ value reported in MR has been corrected to 3.2716 as per 'HHFF Inputs' tab in the 'confidential GS 1078 Combined MSS and ERs calculations sheet 2021 2022' spreadsheet.

ii. The value of total baseline emissions has been amended to 9,681 tCO_2e in MR as per 'Consolidated ERs 2020-2021' tab in the 'confidential GS 1078 Combined MSS and ERs calculations sheet 2021 2022' spreadsheet.

SDG 13: IHFF technology

i. The $B_{b,y}$ value in MR has been corrected to 0.00022368 reported in cell C10 of 'BE_Person_day IHFF' sheet in 'GS 1078 Combined and ERs calculations sheet 2021 2022'.

ii. The value of the total baseline emissions report in the MR has been corrected to 1,267 in line with 'Consolidated ERs 2020-2021' tab and in 'Er Calculations- IHFF 2021' sheet column F in the 'confidential GS 1078 Combined MSS and ERs calculations sheet 2021 2022' spreadsheet for all the 141 institutional users.

Documentation provided by project participant (1st round)		
☐ Changes in the PoA-DD	Section(s):	New version No.:
☐ Changes in the CPA-DD	Section(s):	New version No.:
☒ Changes in MR	Section(s): E.1	New version No.: 2.0
☐ Changes in XLS	Worksheet(s):	New version No.:
☐ Other:		

VVB assessment (1st round)	**Date: 03/07/2022**

MR Version 2.0, section E.1

SDG 13: BSF Technology

i. The PP has amended the value of the parameter $B_{b,y}$ from as 4.1153 to 4.0215. The VVB has confirmed that the value is satisfactory.

ii. The PP has adjusted total baseline emissions from 30,635tCO_2e to 16,024tCO_2e. Please clarify why the amended value is inconsistent with the value in, 17,179 in Consolidated Ers 2021 tab.

SDG 13: HFF technology

i. The PP has adjusted parameter $B_{b,y}$ value from as 4.1153 to 3.2716. The VVB has verified this adjustment.

ii. The PP has reported the total baseline emissions as 9,681 tCO_2e. The value in the consolidated ERs 2021 tab, 10,379 is at odd with the value, 9,681. A clarification is requested.

SDG 13: IHFF Technology

i. The PP has amended the value of $B_{b,y}$ value initially reported as 0.0001306 to 0.00022368 per 'BE_Person_day IHFF' sheet in 'GS 1078 Combined and ERs calculations sheet 2021 2022. This is on order as confirmed by the VVB.

ii. The PP has adjusted the value of the value of the total baseline emissions from 4,210 tCO2e to 1,267. The VVB has made certain of this change in the MR as reflected in the 'Consolidated ERs 2020-2021' tab of the 'confidential GS 1078 Combined MSS and ERs calculations sheet 2021 2022'.

Project participant response (2nd round)	**Date: 07/07/2022**

BSF Technology

ii) The amended value for baseline emissions for BSF has been corrected to 17,179 tCO2e for consistency with the excel sheet calculations

HHFF Technology

ii) PP has amended the baseline values for HHFF to 10,379 tCO2e for consistency with the excel sheet calculations.

IHFF Technology

ii) PP has amended the baseline emissions for IHFF to be in line with excel sheet calculations and amended the baseline values from 4,210 tCO2e to 1,358 tCO2e.

Documentation provided by project participant (2nd round)		
☐ Changes in the PoA-DD	Section(s):	New version No.:
☐ Changes in the CPA-DD	Section(s):	New version No.:
☒ Changes in MR	Section(s): E.1	New version No.: 3.0
☐ Changes in XLS	Worksheet(s):	New version No.:
☐ Other:		

VVB assessment (2nd round)	**Date: 20/07/2022**

MR Version 3.0, section E.1

The PP has correctly reported the values of baseline emission for all technologies:

17,179 tCO_2e for BSF, 10,379 tCO_2e for HHFF, and 1,358 tCO_2e for IHFF. The VVB verified that the value reported in MR are consistent with those recorded in the Consolidated ERs 2021 tab of the GS1078 Combined MSS and ERs calculation spreadsheet.

Conclusion *Tick the appropriate checkbox*	☐ Additional action should be taken (finding remains open) ☒ The finding is closed

CAR ID	**11**	**Section no.**	**E.1**	**Date: 06/06/2022**

Description of CAR

MR version 1.0, E.1

Quantity of fuel consumed in baseline scenario b during year y, in tons (Bb,y) for BSF, HHFF and IHFF Filters

1. $N_{p,y}$

   The value applied for IHFF is 106. The value is inconsistent with 106.42.

2. $EF_{b,\ fuel,\ CH4}$

   The value 0.84 applied for BSF, HHFF, and IHFF is inaccurate due to inaccurate CH4 emission factor of the wood fuel value of 0.03 applied. Per the VPA DD, the value is 0.3.

3. $BE_{,by}$

   The value applied for IHFF in MR as 1,113 tCO2e differs from 1,267 tCO_2e as per 'Consolidated ERs 2020-2021' tab and per the sum in column F of the 'Er Calculations-IHFF 2021 tab in GS1078 Combined MSS and ERs calculations spreadsheet.

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

Table 6

1. The period end date reported as 31/12/2021 is incorrect, as per the VPA DD and per the date reported in the Key Project Information part of the MR as 27/12/2021.
2. The value of IHFF total Baseline Emissions (tCO2e) reported as 1,108 is incorrect per the reported value of 1,267 tCO2e in the 'Consolidated ERs 2020-2021' tab and per the sum in column F of the 'Er Calculations-IHFF 2021 tab in GS1078 Combined MSS and ERs calculations spreadsheet. Hence, the report value of the Combined Totals (tCO2e) is incorrect.

Project participant response (1st round)	**Date: 24/06/2022**

MR version 1.0, E.1

Quantity of fuel consumed in baseline scenario b during year y, in tons (Bb,y) for BSF, HHFF and IHFF Filters

1. Np,y

This value was rounded down from 106.42 to 106.

2. EFb, fuel, CH4

The value has been changed to 8.4 for BSF, HHFF, and IHFF after correcting the value of CH4.emission factor of the wood fuel value of 0.03 to 0.3 as Per the VPA DD, the value is 0.3.

3. BE,by

The value applied for IHFF in MR has been corrected from 1,113 tCO2e to 1,267 tCO2e as per 'Consolidated ERs 2020-2021' tab and per the sum in column F of the 'Er Calculations-IHFF 2021 tab in GS1078 Combined MSS and ERs calculations spreadsheet.

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

Table 6

1. The period end date reported has been corrected as per the dates on the Key Project Information part of the MR as 27/12/2021.

2. The value of IHFF total Baseline Emissions (tCO2e) has been corrected as per the reported value of 1,267 tCO2e in the 'Consolidated ERs 2020-2021' tab and per the sum in column F of the 'Er Calculations-IHFF 2021 tab in GS1078 Combined MSS and ERs calculations spreadsheet. Hence, the report value of the Combined Totals (tCO2e) is incorrect.

Documentation provided by project participant (1st round)		
☐ Changes in the PoA-DD	Section(s):	New version No.:
☐ Changes in the CPA-DD	Section(s):	New version No.:
☒ Changes in MR	Section(s): E.1	New version No.: 2.0
☐ Changes in XLS	Worksheet(s):	New version No.:
☐ Other:		
VVB assessment (1st round)		**Date: 03/07/2022**

MR Version 2.0, section E.1

Quantity of fuel consumed in baseline scenario b during year y, in tons (Bb,y) for BSF, HHFF and

BSF Filters

The PP has reported a new value of 1,752 for the parameter $N_{p,y}$, a change from 2,043. The VVB has verifies the application of this value.

IHFF Filters

1. $N_{p,y}$

   The PP has clarified the that the value 106.42 was rounded down to 106. The VVB accords with this clarification.

2. $EF_{b,\ fuel,\ CH4}$

   The PP has amended the GWP value for CH_4 from 0.003 to 0.3 and correctly applied to achieve a value of 8.4 and made changes in MR accordingly. This has been confirmed by the VVB.

3. $BE_{,by}$

   The PP has correctly amended the value from 1,113 tCO_2e to 1,267 tCO2e as per 'Consolidated ERs 2020-2021' tab in the GS1078 Combined MSS and ERs calculations spreadsheet. The VB has verified this change in MR.

Table 6

1. The CP end date has been amended from 31/12/2021 to 27/12/2021 as indicated in the Key Project Information and the approved VPA-DD.
2. The PP has amended the value of IHFF total baseline emissions to 1,227 tCO_2e. The value in the Consolidated Ers 2021 tab, however, is recorded as 1,358. The PP shall explain this mismatch.

Project participant response (2nd round)		Date: 07/07/2022
2. The PP has amended the value of IHFF total baseline emissions to 1,358 tCO2e as per tab E 37 tab consolidates Ers 2021. This is now consistent		
Documentation provided by project participant (2nd round)		
☐ Changes in the PoA-DD	Section(s):	New version No.:
☐ Changes in the CPA-DD	Section(s):	New version No.:
☒ Changes in MR	Section(s): E.1	New version No.: 3.0
☐ Changes in XLS	Worksheet(s):	New version No.:
☐ Other:		
VVB assessment (2nd round)		**Date: 20/07/2022**
MR Version 3.0, section E.1 The IHFF total baseline emissions value has been amended accordingly to 1,358 tCO_2e. The VVB accords with this adjustment upon confirming from the MR that this is so.		
Conclusion *Tick the appropriate checkbox*	☒ Additional action should be taken (finding remains open) ☐ The finding is closed	

CAR ID	12	Section no.	E.2	Date: 06/06/2022
Description of CAR				
MR version 1.0, E.2 Calculation of Project Emissions BSF technology The parameter $EF_{b, fuel, CH4}$ value reported is not correct due to the wrong parameter value, 0.03 applied in the formula, which should be 0.3 as per the approved VPA DD. HHFF technology The parameter $EF_{b, fuel, CH4}$ value reported is not correct due to the wrong parameter value, 0.03 applied in the formula, which should be 0.3 as per the approved VPA DD. IHFF technology The parameter $EF_{b, fuel, CH4}$ value reported is not correct due to the wrong parameter value, 0.03 applied in the formula, which should be 0.3 as per the approved VPA DD GHG Emission Reductions calculations The value of $\sum BE_{b,y}$ reported for BDF, 7.405, is at odd with 7.402 as per BSF 2021 tab in the 'GS1078 Combined MSS and ERs calculations' spreadsheet.				
Project participant response (1st round)				**Date: 24/06/2022**
Correct value for EFb, fuel, CH4 for BSH, IHFF and HHFF has been applied as per the approved VPADD. The value of ∑ 〖BE〗_(b,y) reported for BSF has been amended as per BSF 2021 tab in the 'GS1078 Combined MSS and ERs calculations' spreadsheet.				
Documentation provided by project participant (1st round)				
☐ Changes in the PoA-DD		Section(s):		New version No.:
☐ Changes in the CPA-DD		Section(s):		New version No.:
☒ Changes in MR		Section(s): E.2		New version No.: 2.0
☐ Changes in XLS		Worksheet(s):		New version No.:
☐ Other:				
VVB assessment (1st round)				**Date: 03/07/2022**
MR Version 2.0, section E.2 The PP has applied the correct value of the GWP for CH_4 and the VVB has confirmed the correct value of $EF_{b, fuel, CH4}$ for BSF, IHFF and HHFF as per the approved VPA-DD. The PP has amended the value of $\sum BE_{b,y}$ to 6.786 for BSF and 5,521 for HHFF. The VVB has verified these changes and has confirmed that the reported values in MR are consistent with those recorded in the spreadsheet.				

Project participant response (2nd round)		Date: 26/07/2022
As per the above, there is no issue raised as both issues raised above were accepted. VVB to clarify this.		
Documentation provided by project participant (2nd round)		
☐ Changes in the PoA-DD	Section(s):	New version No.:
☐ Changes in the CPA-DD	Section(s):	New version No.:
☒ Changes in MR	Section(s): E.2	New version No.: 3.0
☐ Changes in XLS	Worksheet(s):	New version No.:
☐ Other:		
VVB assessment (2nd round)		**Date: 20/07/2022**
MR Version 3.0, section E.2 The PP has resolved all the issues raised.		
Conclusion *Tick the appropriate checkbox*	☐ Additional action should be taken (finding remains open) ☒ The finding is closed	

CAR ID	13	Section no.	E.4	Date: 06/06/2022
Description of CAR				

MR version 1.0, E.4

BSF technology: Table 12

1. The net benefit value of $N_{p,y}$ reported as 52 under the SDG 8 is incorrect. Further, the value of the employment wages of people employed by the project reported as 22 is incorrect.
2. The baseline estimate of the total emission reductions of 15,037 is incorrect, as per the reported value of 15,047 tCO_2e in Consolidated ERs 2020-2021 spreadsheet.
3. The end date under reported as 31/12/2021 in row 'total emission reductions' is incorrect.

HHFF technology: Table 13

1. The SDG 3 $N_{p,y}$ value reported as 1,662 is incorrect.
2. The $B_{b,y}$ value reported as 3.8150 in MR is inconsistent with the value 3.8255 as per HHF 2021 in GS 1078 Combined MSS and ERs calculations sheet 2021 2022 cell C12.

IHFF technology: Table 14

1. The total emission reductions value reported as 1,267 tCO_2e is incorrect as per the value reported as 1,225 tCO2e in the 'Er Calculations – IHFF 2021' tab and 'Consolidated ERs 2020-2021' tab in GS 1078 Combined MSS and ERs calculations Excel database.

Project participant response (1st round)	Date: 24/06/2022

MR version 1.0, E.4

BSF technology: Table 12

1. The net benefit value of $N_{p,y}$ reported under the SDG 8 has been corrected to 61. Further, the value of the employment wages of people employed by the project for filter distribution is 26 employees ref 'confidential Employee Records summary-2021-22' tab '*Total'*.

2. The baseline estimate of the total emission reductions has been corrected to 16,024 as per Consolidated ERs 2020-2021 spreadsheet.

3. The end date in row 'total emission reductions' has been corrected to 27/12/2021.

HHFF technology: Table 13

1.The SDG 3 $N_{p,y}$ value has been corrected to 1,425 in line with '*confidential GS 1078 Combined MSS and ERs calculations sheet 2021 2022' tab 'HHFF 2021'*.

2.The $B_{b,y}$ value has been reported as 3.2716 in MR for consistency with GS 1078 Combined MSS and ERs calculations sheet 2021 2022 cell C12.

IHFF technology: Table 14

1. The total emission reductions value corrected to 1,225 tCO2e as per the 'Er Calculations – IHFF 2021' tab and 'Consolidated ERs 2020-2021' tab in GS 1078 Combined MSS and ERs calculations Excel database.

Documentation provided by project participant (1st round)		
☐ Changes in the PoA-DD	Section(s):	New version No.:
☐ Changes in the CPA-DD	Section(s):	New version No.:
☒ Changes in MR	Section(s): E.4	New version No.: 2.0
☐ Changes in XLS	Worksheet(s):	New version No.:
☐ Other:		

VVB assessment (1st round)	**Date: 03/07/2022**

MR Version 2.0, section E.4

BSF technology: Table 12

1. The PP amended the net benefit value of $N_{p,y}$ from 52 to 61, which is in order as the VVBs has confirmed the change, in MR. The value of the employment wages of people employed by the project has been corrected from 22 to 26.

2. The baseline estimate of the total emission reductions of 15,037 has been amended to 16,024. However, this value is at odds with the value recorded in the 'Consolidated ERs 2021' sheet as 10,179.

3. The end date of the CP has been corrected to 27/12/2021, in row 'total emission reductions'. The VVB has confirmed so.

HHFF technology: Table 13

3. The SDG 3 $N_{p,y}$ value initially reported as 1,662 has been corrected to 1,425. The PP has clarified the application of the amended value 1,425 and the VVB has considered it satisfactory.

4. The PP has amended the $B_{b,y}$ value from 3.8255 to 3.2716. The adjustment has been verified by the VVB and confirmed that the value 3.2716 reported in MR is consistent with the value recorded in the spreadsheet.

IHFF technology: Table 14

1. The total emission reductions value has been adjusted to 1,267 tCO_2e accordingly. However, the VT has cross-checked against the value recorded in 'ER Calculations – IHFF 2021' tab and 'Consolidated ERs 2020-2021' tab in GS 1078 Combined MSS and ERs calculations Excel database and observed inconsistency since the reported value 1,267 does not match the value recorded as 1,313 in the 'Consolidated ERs 2021' sheet. The PP shall clarify this inconsistency or correct as appropriate.

Project participant response (2nd round)	**Date: 26/07/2022**

2. The baseline estimates for BSF as per 'Consolidated ERs 2021' sheet' tab C37 is 17,179, The same was recorded on the MR.

3. The total emission reductions for IHFF was amended due to the corrections made for EFb, fuel, CH_4 from 0.03 to 0.3. The correct value has been corrected to 1,313 as per 'Consolidated ERs 2021' sheet' tab E30.

Documentation provided by project participant (2nd round)		
☐ Changes in the PoA-DD	Section(s):	New version No.:
☐ Changes in the CPA-DD	Section(s):	New version No.:
☒ Changes in MR	Section(s): E.4	New version No.: 3.0
☐ Changes in XLS	Worksheet(s):	New version No.:
☐ Other:		

VVB assessment (2nd round)	**Date: 20/07/2022**

MR Version 3.0, section E.4

BSF technology: Table 12

4. The PP has corrected the baseline emissions value to 17,179 tCO_2e.

IHFF technology: Table 14

1. The PP has amended the baseline emissions value to 10,379 tCO_2e.

Conclusion *Tick the appropriate checkbox*	☐ Additional action should be taken (finding remains open) ☒ The finding is closed

CAR ID	**14**	**Section no.**	**E.5**	**Date: 06/06/2022**

Description of CAR

MR version 1.0, E.5

BSF Table 15

The reported value of the total emission reductions of 18,738 tCO2e is incorrect as per the value reported as 15,047 in Consolidated ERs 2020-2021 sheet.

HHFF Table 16

1. The number of trainings reported as 11 is incorrect.
2. $B_{b,y}$ value reported as 3.8150 is not correct
3. The total emission reductions value reported as 11,320 tCO_2e in MR is not consistent with the value reported as 10,072 per 'Consolidated ERs 2020-2021' tab.

IHFF Table 17

Total emission reductions value reported as 1,267 tCO2e is inconsistent with the value reported a 1,225 in the Consolidated ERs 2020-2021' tab.

Project participant response (1st round)	**Date: 24/06/2022**

MR version 1.0, E.5

BSF Table 15

The reported value of the total emission reductions of has been corrected to 13,613 as per the value reported in Consolidated ERs 2020-2021 sheet.

HHFF Table 16

1. The number of trainings on installation, water and sanitation management and maintenance of the water filters were 11 ref '*GS 1078 Training records summary' and* 1 training done in preparation of monitoring survey exercise.

2. $B_{b,y}$ value corrected to 3.2716

3. The total emission reductions value achieved was 8,463 tCO2e in MR is now consistent with the value reported on 'Consolidated ERs 2020-2021' tab D 30.

IHFF Table 17

Total emission reductions value reported on the MR is 1,225 tCO2e in the 'Consolidated ERs 2020-2021' tab

Documentation provided by project participant (1st round)		
☐ Changes in the PoA-DD	Section(s):	New version No.:
☐ Changes in the CPA-DD	Section(s):	New version No.:
☒ Changes in MR	Section(s): E.5	New version No.: 2.0
☐ Changes in XLS	Worksheet(s):	New version No.:
☐ Other:		

VVB assessment (1st round)	**Date: 03/07/2022**

MR version 2.0, E.5

BSF Table 15

The PP has amended the value of the total emission reductions from to 18,738 tCO2e 13,613 tCO_2e. The reported value of the total emission reductions of has been corrected to 13,613 as per the value reported in Consolidated ERs 2020-2021 sheet. The VVB has verified that the value in MR is consistent with the value in the 'Consolidated ERs 2021' sheet.

HHFF Table 16

1. The PP has clarified that the number of trainings reported as 11 is correct, but an extra training done for monitoring survey. The VVB has confirmed in the 'GS 1078 Training records summary' that the number of trainings were 11 and this has been amended accordingly in the MR.
2. The PP has corrected the value of $B_{b,y}$ reported initially as 3.8150 to 3.2716. The VVB has confirmed that this value is consistent with that recorded in the 'HHFF 2021' tab.
3. The PP has corrected total emission reductions value from 11,320 tCO_2e to 9,072 tCO_2e. The PP, however, responds by stating that the value achieved is 8,463 tCO2e. A clarification or correction is required.

IHFF Table 17

The PP has adjusted the total emission reductions from 1,267 tCO2e to 1,313 per the 'Consolidated ERs 2020-2021' tab. The PP is requested to explanation why the total emission reductions value reported on the MR as 1,313 tCO_2e, which is consistent with the spreadsheet, but not consistent with the response above.

Project participant response (2nd round)	**Date: 26/07/2022**

3.PP had erroneously reported the correct value which is 9,072 as per consolidated Ers 2021 tab D30

IHFF Table 17

The response provided above was erroneous. The correct value is 1,313 which is consistent with consolidated Ers 2021 tab E30 and the MR.

Documentation provided by project participant (2nd round)		
☐ Changes in the PoA-DD	Section(s):	New version No.:
☐ Changes in the CPA-DD	Section(s):	New version No.:
☒ Changes in MR	Section(s): E.5	New version No.: 3.0
☐ Changes in XLS	Worksheet(s):	New version No.:
☐ Other:		

VVB assessment (2nd round)	Date: 20/07/2022
MR version 3.0, E.5 HHFF Table 16 The PP has corrected total baseline emissions to 9,072 tCO_2e, which is consistent with the value in the Consolidated ER 2021 tab. IHFF Table 17 The PP has corrected total baseline emissions to 1,313 tCO_2e, which is consistent with the value in the Consolidated ER 2021 tab.	
Conclusion *Tick the appropriate checkbox*	☐ Additional action should be taken (finding remains open) ☒ The finding is closed

CAR ID	15	Section no.	E.6	Date: 06/06/2022
Description of CAR				
MR version 1.0, E.6 The actual achieved ERs value for HHFF reported as 12,077 tCO_2e is inconsistent with the value reported as 10,072 per 'Consolidated ERs 2020-2021' sheet.				
Project participant response (1st round)				**Date: 24/06/2022**
MR version 1.0, E.6 The actual achieved ERs value for HHFF has been corrected to 8,463tCO_2e for consistency with the value reported on 'Consolidated ERs 2020-2021' sheet.				
Documentation provided by project participant (1st round)				
☐ Changes in the PoA-DD		Section(s):		New version No.:
☐ Changes in the CPA-DD		Section(s):		New version No.:
☒ Changes in MR		Section(s): E.6		New version No.: 2.0
☐ Changes in XLS		Worksheet(s):		New version No.:
☐ Other:				
VVB assessment (1st round)				**Date: 03/07/2022**
MR Version 2.0, section E.6 The PP has amended the value of actual achieved ERs for HHFF from 12,077 tCO_2e to 9,072 tCO_2e, which deviates from the value, 8,463 tCO_2e, the PP reports in response to this CAR. A clarification for the difference is requested.				
Project participant response (2nd round)				**Date: 26/07/2022**
The value was erroneously provided; correct value is 9,072 tCO_2e as per Consolidated Ers 2021 spreadsheet tab D30.				
Documentation provided by project participant (2nd round)				
☐ Changes in the PoA-DD		Section(s):		New version No.:
☐ Changes in the CPA-DD		Section(s):		New version No.:
☒ Changes in MR		Section(s): E.6		New version No.: 3.0
☐ Changes in XLS		Worksheet(s):		New version No.:
☐ Other:				
VVB assessment (2nd round)				**Date: 20/07/2022**
MR Version 3.0, section E.6 The PP has correctly reported HHFF ERs as 9,072 tCO_2e, which the VVB has confirmed from the MR. However, the PP shall provide a response to the finding from the 1st round assessment above.				
Conclusion *Tick the appropriate checkbox*	☒ Additional action should be taken (finding remains open) ☐ The finding is closed			

Table 4. FAR from this verification

FAR ID	-	Section No.	-	Date: DD/MM/YYYY
Description of FAR				

N/A		
Project participant response		**Date:** DD/MM/YYYY
Documentation provided by project participant		
☐ Changes in the PDD	Section(s):	New version No.:
☐ Changes in MR	Section(s):	New version No.:
☐ Changes in XLS	Worksheet(s):	New version No.:
☐ Other:		
DOE assessment		**Date:** DD/MM/YYYY

Conclusion *Tick the appropriate checkbox*	☐ To be checked during the next periodic verification

Appendix 4. Monitored Parameters

Table A-4: Periodic Verification Checklist – Monitored Parameters

1. SDG3: $U_{p,y}$		**Description: Usage rate in project scenario p during year y. This data will be used to account for end users which discontinue use of the filters from the monitored sample frame and thereafter be extrapolated across the total sales record.**		
Measurement / Determination method (VVS, §§ 363-367) *Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level (ODL) but also describe the applied data aggregation trails (from ODL to data aggregation level zero (DAL0)).* *Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used. Furthermore, verify the frequency of measurements as per the requirements.* *Assess whether the measurement / determination method is in line with the registered monitoring plan of the VPADD and the applied methodology.*	/MR/ /ER/ /PDD/	*Description:* The usage rate of end users of the technology filters BSF, HHFF, and IHFF. This value is represented by the percentage of users of these project water purification technologies. The data derived from the usage survey data recorded in the Combined MSS and ER spread sheet under the tabs BSF-, HHFF- and IHFF Usage Survey.	~~CAR 08~~	OK
		Verifier´s action: This parameter is monitored annually. The tabs BSF-, HHFF- and IHFF Usage Survey of the GS1078 Combined MSS and ERs calculation sheet were reviewed and crosschecked values reported in MR. During interviews with PA implementer, households and institutions, the usage rate for the project technologies were as follows: BSF – 83.23% HHFF- 87.45% IHFF – 96.67%		
		Conclusion: The monitoring of the indicator has been done according to the current approved PDD and according to the Gold Standard guidelines.		
		☒ In this context the following findings have been raised:		
		☐		
		☒ CAR 08		
2. SDG 6.1: Volume of safe water consumed in the project scenario		**Description: Quantity of safe water in litres consumed in the project scenario p and supplied by project technology per person per day**		
Measurement / Determination method	/MR/	*Description:*	OK	OK

(VVS, §§ 363-367) *Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level (ODL) but also describe the applied data aggregation trails (from ODL to data aggregation level zero (DAL0)).* *Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used. Furthermore, verify the frequency of measurements as per the requirements.* *Assess whether the measurement / determination method is in line with the registered monitoring plan of the VPADD and the applied methodology.*	/PDD/	Quantity of safe water consumed by users in the presence of project technologies BSF, HHFF, and IHFF, per person per day. Monitored biennially, the parameter values were obtained during the 3-day WCFT using calibrated measuring buckets. The results obtained are recorded in the GS1078 Combined Monitoring survey summary, tabs $Q_{p,y}$ BSF, $Q_{p,y}$ HHFF and $Q_{p,y}$ IHFF Inputs as follows: BSF –7 l/p/d HHFF –7 l/p/d IHFF –2.33 l/p/d *Verifier´s action:* Carried out in 2020/2021, a 90/30 confidence/precision was adopted per the methodological sampling requirements. *Conclusion:* The monitoring of the indicator has been done according to the latest PDD. ☐ In this context the following findings have been raised: ☐ ☐		
3. SDG 3.9: Reduction in water borne diseases such as skin rash, diarrhea, foot sores, parasites, eye problems and other water borne diseases.		**Description: Number of persons who have experienced a decrease of water borne diseases such as skin rash, diarrhea, foot sores, parasites, eye problems and other water borne diseases since using the filter**		
Measurement / Determination method (VVS, §§ 363-367) *Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level (ODL) but also describe the applied data aggregation trails (from ODL to data aggregation level zero (DAL0)).* *Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used. Furthermore, verify the frequency of measurements as per the requirements.* *Assess whether the measurement / determination method is in line with the*	/MR/ /ER/	*Description:* Monitored annually, the parameter gives the number of people who record waterborne cases since consuming water purified by the BSF, HHFF, and IHFF. The parameter was measured using open ended questionnaire during monitoring survey and the values obtained are follows: BSF: 100% HHFF: 100% IHFF: 100% The data is derived from GS1078 Combined Monitoring survey summary, tabs BSF, HHFF and IHFF Sustainable Development.	~~CAR 08~~	OK

registered monitoring plan of the VPADD and the applied methodology.		*Verifier´s action:* The MR reported values of the parameter were crosschecked for consistency against those recorded in tabs BSF, HHFF, and IHFF Sustainable Development in the Combined Monitoring Survey summary spreadsheet. *Conclusion:* The monitoring of the indicator is according to the approved PDD and the applied methodology. ☒ In this context the following findings have been raised: ☒ CAR 08 ☐		
4. SDG 3: $N_{p,y}$		**Description: Number of persons consuming water supplied by project scenario p through year y**		
Measurement / Determination method (VVS, §§ 363-367) *Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level (ODL) but also describe the applied data aggregation trails (from ODL to data aggregation level zero (DAL0)).* *Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used. Furthermore, verify the frequency of measurements as per the requirements.* *Assess whether the measurement / determination method is in line with the registered monitoring plan of the VPADD and the applied methodology.*	/MR/ /DB/ /PDD/ /IM01/ /IM02/	*Description:* The number of Person Days on which water purified by the project technologies BSF, HHFF, and IHFF from 18/02/2021 to 27/12/2021 is consumed. Data for this parameter was derived from Water Consumption Field Test (WCFT) survey, where. The parameter is monitored each year as per the monitoring plan and the applied methodology. Households and institutions were asked the number of people living in their household and institutions for that day in the three consecutive days during the WCFT. An average of this number was then calculated, and an average of the total obtained. The figure was multiplied by 365 days in a year to obtain the figure for BSF and HHFF and by specific number of days a filter in in operation for IHFF. The values of the parameter obtained are as follows: BSF – 1,752 HHFF – 1,425 IHFF –Calculated individually for each institution. Calculations have been provided on the ERs sheet 'confidential GS 1078 Combined MSS and ERs calculations sheet 2021 2022' tab ER- calculation- IHFF.BE_Person_day_IHFF *Verifier´s action:* The data from the combined MSS and ER spread sheet are reviewed and interviews with VPA implementer undertaken to verify data documented. *Conclusion:* The VT confirmed that the monitoring of the indicator is accords with to the current approved PDD.	~~CL 07~~ ~~CL 10~~ ~~CAR 08~~ ~~CAR 09~~ ~~CAR 11~~ ~~CAR 13~~	OK

		☒	In this context the following findings have been raised:			
			☒	CL 07; CL 10		
			☒	CAR 08; CAR 09; CAR 11; CAR 13		
5. SDG 6.1: $Q_{p,y}$		**Description: Quantity of safe water in litres consumed in the project scenario p and supplied by project technology per person per day**				
Measurement / Determination method (VVS, §§ 363-367) *Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level (ODL) but also describe the applied data aggregation trails (from ODL to data aggregation level zero (DAL0)).* *Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used. Furthermore, verify the frequency of measurements as per the requirements.* *Assess whether the measurement / determination method is in line with the registered monitoring plan of the VPADD and the applied methodology.*	/MR/ /DB/ /ER/ /PDD/	*Description:* The parameter monitored the quantity of water supplied in the BSF, HHFF, and IHFF project technologies. The parameter is monitored biennially. The values of the parameter applied for the three technologies are as follows: BSF – 7l/p/d HHFF – 7l/p/d IHFF – 2.33l/p/d The determination of the quantity of water supplied and consumed in the monitoring period was done in accordance with the methodological guidance of the Water Consumption Field Test (WCFT) provided by TPDDTEC v1.0. The PP conducted a 3-day in which WCFT results were recorded and average values of water consumption were obtained. A calibrated bucket was used to measure the volume of water consumed. A 90/30 confidence/precision was applied as per the methodological requirements and sample sizes of 33 HHs for BSF and HHFF and 20 for IHFF were correctly applied.			OK	OK
		Verifier´s action: The calculated data for this monitoring period is crosschecked for correctness of the values in the WCFT tabs Qp,y BSF, Qp,y HHFF and Qp,y IHFF Inputs. The VPA implementer, households, and institutions are interviewed during site visit to check for consistency of the reported values.				
		Conclusion: The monitoring of the indicator is according to the registered PDD.				
		☐	In this context the following findings have been raised:			
			☐			
			☐			
6. SDG 13: $Q_{p,\ rawboil,\ y}$		**Description: Quantity of raw water boiled in the project scenario p per person per day**				

Measurement / Determination method (VVS, §§ 363-367) *Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level (ODL) but also describe the applied data aggregation trails (from ODL to data aggregation level zero (DAL0)).* *Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used. Furthermore, verify the frequency of measurements as per the requirements.* *Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.*	/MR/ /ER/ /PDD/ /GSM/ /IM/	*Description:* This parameter monitors the amount of untreated/raw/unsafe water in Litres per person per day of untreated/raw water that is still boiled even in the presence of the BSF, HHFF, and IHFF and is monitored biennially during a 3-day WCFT assessment in households and institutions recorded in the GS1078 Combined Monitoring survey summary, tabs Qp,y BSF, Qp,y HHFF and Qp,y IHFF Inputs. The value applied is 0 for all BSF, HHFF, and IHFF technologies. *Verifier´s action:* The reported data in MR for this monitoring period is crosschecked for correctness of the values in the WFCT results in (tabs Qp,y BSF, Qp,y HHFF and Qp,y IHFF Inputs) The VPA implementer, households and institutions were interviewed during site visit to check consistency of the reported values. *Conclusion:* The parameter is monitored in accordance with the registered PDD and the applied methodology. ☐ In this context the following findings have been raised: ☐ ☐	OK	OK
7. SDG 6.1: $Q_{p,\ cleanboil,y}$		**Description: Quantity of safe (treated, or from safe supply) water boiled in the project scenario p, after installation of project technology**		
Measurement / Determination method (VVS, §§ 363-367) *Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level (ODL) but also describe the applied data aggregation trails (from ODL to data aggregation level zero (DAL0)).* *Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used. Furthermore, verify the frequency of measurements as per the requirements.* *Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the*	/MR/ /ER/ /PDD/ /GSM/ /IM/	*Description:* Litres per person per day of safe water in the BSF, HHFF, and IHFF project technologies. The parameter is monitored biennially. The value is applied as 0 for all the project technologies BSF, HHFF, and IHFF. The data is obtained from Water Consumption Field Test (WCFT) as recorded in the GS1078 Combined Monitoring survey summary spreadsheet, tabs Qp,y BSF, Qp,y HHFF and Qp,y IHFF Inputs. Carried out in 2020/2021, a 90/30 confidence/precision was adopted per the methodological sampling requirements. *Verifier´s action:* The calculated data for this monitoring period reported in MR is crosschecked for correctness of the values in the WCFT tabs. The PA implementer, households, and institutions are interviewed during site visits for consistency check of the reported values.	OK	OK

applied methodology.		*Conclusion:* The parameter is monitored in accordance with the registered PDD and the applied methodology.		
		☐ In this context the following findings have been raised: ☐ ☐		
8. SDG 13.3: $LE_{p, y}$		**Description: Leakage in project scenario p during year y**		
0) ***Measurement / Determination method (VVS, §§ 363-367)*** *Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level (ODL) but also describe the applied data aggregation trails (from ODL to data aggregation level zero (DAL0)).* *Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used. Furthermore, verify the frequency of measurements as per the requirements.* *Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.*	/MR/ /PDD/ /GSM/	*Description:* Leakages from the assembly, operation, use, and maintenance of BSF, HHFF, and IHFF technologies in households and institutions within the project boundary for this monitoring period. The parameter is monitored biennially. The parameter value is obtained from the sources established by following Leakage emissions, ssection of the methodology. The value adopted is 0. *Verifier´s action:* The VT reviewed section E.3 of MR and the approved PDD to confirm the applicability of this parameter value and that it is applied per the approved methodology. *Conclusion:* The parameter has been monitored and its value applied per the approved PDD and the applied methodology.	~~CL 07~~	OK
		☒ In this context the following findings have been raised: ☒ CL 07 ☐		
9. SDG 6.1: Quality of treated water		**Description: Quality of filtered water**		
Measurement / Determination method (VVS, §§ 363-367) *Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level (ODL) but also describe the applied data aggregation trails (from ODL to data aggregation level zero (DAL0)).*	/MR/ /ER/ /WQT/ /PDD/ /IM01/	*Description:* The parameter is monitored annually, and the value applied for the 2020 and 2021 is 99.76%, as derived from the Water quality (WQT) tests for this MP8. The parameter was measured in line with *Guidelines for Water Quality Monitoring in Kenya*, following GS methodological requirements at 90/30 confidence/precision. The water quality assessment included both qualitative and quantitative aspects that	OK	OK

Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used. Furthermore, verify the frequency of measurements as per the requirements. *Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.*	/IM02/	include reported incidences of waterborne diseases in children or any other members of a family in the last 30days, level of hygiene (includes handwashing, and adherence to safe storage practices, user satisfaction, and level of E. coli in the filtered water. Values obtained were 100% for all technologies: BSF: 100% HHFF:100% IHFF: 100% *Verifier´s action:* Water quality tests reports are reviewed and crosschecked with value in the MR. *Conclusion:* The parameter is monitored in accordance with the registered PDD and the applied methodology.		
		☐ In this context the following findings have been raised: ☐ ☐		
10. SDG 3.9: Air Quality$_{BSF}$		**Description: Measurement of user perceptions between the baseline and project scenario: smoke levels, incidence of coughing, incidence of respiratory illness, and incidence of itchy eyes.**		
Measurement / Determination method (VVS, §§ 363-367) *Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level (ODL) but also describe the applied data aggregation trails (from ODL to data aggregation level zero (DAL0)).* *Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used. Furthermore, verify the frequency of measurements as per the requirements.* *Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.*	/MR/ /ER/ /PDD/ /IM/	*Description:* This parameter measures user perception on smoke levels, incidence of coughing, incidence of respiratory illness, and incidence of itchy eyes in both baseline and project scenario. The parameter was derived from monitoring Survey and is monitored annually. The survey results are recorded in the GS1078 Combined Monitoring survey summary, tabs BSF, HHFF and IHFF Sustainable Development. The values obtained are as follows: Reduced Smoke levels in the House: Yes = 95 No = 0% No Change = 5% Reduced Incidents of Coughing: Yes = 95% No Change = 0%	~~CAR 08~~	

		Reduced incidences of Itchy Eyes: Yes = 88% No Change = 12%		
		Verifier´s action: The monitoring survey results are verified for correctness The data in the MR is crosschecked against the results from the monitoring survey results recorded in Combined Monitoring survey summary database. During the site visit interviews, it could be confirmed that the use of BSF, HHFF, and IHFF have effected this impact.		
		Conclusion: The parameter is monitored in accordance with the registered PDD and the applied methodology.		
		☒ In this context the following findings have been raised: ☒ CAR 08 ☐		
11. SDG 3.9: Air Quality$_{HHFF}$		**Description: Measurement of user perceptions between the baseline and project scenario: smoke levels, incidence of coughing, incidence of respiratory illness, and incidence of itchy eyes.**		
Measurement / Determination method (VVS, §§ 363-367) *Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level (ODL) but also describe the applied data aggregation trails (from ODL to data aggregation level zero (DAL0)).* *Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used. Furthermore, verify the frequency of measurements as per the requirements.* *Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.*	/MR/ /ER/ /PDD/ /IM/	*Description:* This parameter measures user perception on smoke levels, incidence of coughing, incidence of respiratory illness, and incidence of itchy eyes in both baseline and project scenario. The parameter was derived from monitoring Survey and is monitored annually. The survey results are recorded in the GS1078 Combined Monitoring survey summary, tabs BSF, HHFF and IHFF Sustainable Development. The values obtained are as follows: Reduced Smoke levels in the House Yes = 92% No = 0% No Change = 8% Reduced Incidents of Coughing: Yes = 93% No = 0%	~~CAR 08~~	

		No Change = 7% Reduced incidences of Itchy Eyes: Yes = 89% No = 1% No Change = 10%		
		Verifier´s action: The monitoring survey results are verified for correctness The data in the MR is crosschecked against the results from the monitoring survey results recorded in Combined Monitoring survey summary database. During the site visit interviews, it could be confirmed that the use of BSF, HHFF, and IHFF have effected this impact.		
		Conclusion: The parameter is monitored in accordance with the registered PDD and the applied methodology.		
		☒ In this context the following findings have been raised: ☒ CAR 08 ☐		
12. SDG 3.9: Air Quality$_{IHFF}$		**Description: Measurement of user perceptions between the baseline and project scenario: smoke levels, incidence of coughing, incidence of respiratory illness, and incidence of itchy eyes.**		
Measurement / Determination method (VVS, §§ 363-367) *Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level (ODL) but also describe the applied data aggregation trails (from ODL to data aggregation level zero (DAL0)).* *Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used. Furthermore, verify the frequency of measurements as per the requirements.* *Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the*	/MR/ /ER/ /PDD/ /IM/	*Description:* This parameter measures user perception on smoke levels, incidence of coughing, incidence of respiratory illness, and incidence of itchy eyes in both baseline and project scenario. The parameter was derived from monitoring Survey and is monitored annually. The survey results are recorded in the GS1078 Combined Monitoring survey summary, tabs BSF, HHFF and IHFF Sustainable Development. The values obtained are as follows: Reduced Smoke levels in the House: Yes = 93%	~~CAR 08~~	

applied methodology.		No Change = 7% Reduced Incidents of Coughing: Yes = 92% No = 8% Reduced incidences of Itchy Eyes: Yes = 50% No Change = 50%		
		Verifier´s action: The monitoring survey results are verified for correctness The data in the MR is crosschecked against the results from the monitoring survey results recorded in Combined Monitoring survey summary database. During the site visit interviews, it could be confirmed that the use of BSF, HHFF, and IHFF have effected this impact.		
		Conclusion: The parameter is monitored in accordance with the registered PDD and the applied methodology.		
		☒ In this context the following findings have been raised: ☒ CAR 08 ☐		
13. SDG 13.1: $B_{b,y}$		**Description: Quantity of wood fuel consumed in baseline scenario b during the year y in tons**		
Measurement / Determination method (VVS, §§ 363-367) *Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level (ODL) but also describe the applied data aggregation trails (from ODL to data aggregation level zero (DAL0)).* *Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other*	/MR/ /ER/ /PDD/	*Description:* Quantity of wood consumed by the users within the project boundary to boil water, before the project technologies BSF, HHFF, and IHFF took effect. The parameters monitored annually. Data for the parameter is obtained from the GS1078 Combined Monitoring survey summary, tabs BSF, HHFF and IHFF Inputs, and the values obtained are: BSF: 4.0215 HHFF: 3.2716	~~CL 07~~ ~~CAR 10~~ ~~CAR 11~~ ~~CAR 13~~ ~~CAR 14~~	OK

measurement / determination methods have been used. Furthermore, verify the frequency of measurements as per the requirements. *Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.*		IHFF: 0.00022 The parameter values for the technologies were obtained by calculations using the formula below: $B_{by} = (1-C_j) * W_{b,y} * N_{p,y} * (Q_{py} + Q_{p,raw,boil})$ The formula is derived from the applied methodology, "*Technologies and practices to Displace Decentralized Thermal Energy Consumption*, version 1.0" *Verifier´s action:* The reported values in MR were crosschecked with the GS1078 Combined Monitoring survey summary, tabs BSF, HHFF and IHFF Inputs for correctness. The formula in MR was crosschecked against that in the approved PDD and the applied methodology to ascertain that consistency is observed. *Conclusion:* The parameter is monitored in accordance with the registered PDD and the applied methodology. ☒ In this context the following findings have been raised: ☒ CL 07 ☒ CAR 10; CAR 11; CAR 13; CAR 14		
14. SDG 6b: Number of people attending training/ workshops on maintenance of the water filters, water hygiene and sanitation management.		**Description: This parameter will be collected to demonstrate that the project provides training and workshops on filter assembly, installation, use and maintenance.**		
Measurement / Determination method (VVS, §§ 363-367) *Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level (ODL) but also describe the applied data aggregation trails (from ODL to data aggregation level zero (DAL0)).* *Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used. Furthermore, verify the frequency*	/MR/ /ER/ /PDD/ /GSM/ /IM/	*Description:* Nuber of people who participated in the training in the presence of BSF, HHFF, and IHFF on the use and maintenance of the technologies. The parameter is monitored annually The data was obtained from (*Ref GS 1078 training records summary*) The value obtained is 380 people in 11 trainings conducted on 'Household Water Treatment and Safe Storage (HWTS) training''. The training was conducted by Sally Gakii of ClimateCare, with the Aqua Clara team leader for the monitoring exercise, Josephine Orare and Risper Mose and 11 enumerators. The training was held on 9th and 10th Feb 2022 at Aqua Clara Kenya Offices.	~~CL 07~~	OK

of measurements as per the requirements. *Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.*		*Verifier´s action:* It was confirmed that 11 trainings involved 380 people (men and women) who took part in the training as crosschecked against the training records and per interview responses from the PA implementer, HHS, and institutions during onsite visit. *Conclusion:* The parameter is monitored according to the registered PDD and the applied methodology. ☒ In this context the following findings have been raised: ☒ CL 07 ☐		
15. Number of people employed by the project		**Description: Number of people employed by the project**		
Measurement / Determination method (VVS, §§ 363-367) *Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level (ODL) but also describe the applied data aggregation trails (from ODL to data aggregation level zero (DAL0)).* *Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used. Furthermore, verify the frequency of measurements as per the requirements.* *Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.*	/MR/ /PDD/ /GSM/ /IM/ /ER/	*Description:* The number of people employment due to the implementation of Aqua Clara Water Filtration Program and include sales agents, enumerators, trainers (who might be part of the permanent staff), and permanent staff. The parameter is monitored annually, and the parameter value is obtained from GS 1078 Employment Records. The parameter is monitored using the employment and wages records. 61 people are employed in the project, broken down as follows: • 19 permanent employees at Aqua Clara • 26 people employed in the filter distribution program • 16 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 sales agents, 20 were men and 6 women. Out of the 19 permanent ACI employees, 10 were men while 9 were women, 31 people in total are youths, defined in Kenya as persons aged 35 years or below. *Verifier´s action:* The employee records were reviewed and crosschecked with the values reported in the MR and Sustainable Development BSF, HHFF, and IHFF tabs.	~~CAR 09~~	OK

		Names of those employed by the project were also confirmed during onsite visit, together with the PA implementer. *Conclusion:* The parameter is monitored according to the registered PDD and the applied methodology. ☒ In this context the following findings have been raised: ☒ CAR 09 ☐		
16. Employment wages of people employed by the project		**Description: Wages of the people employed by the project**		
Measurement / Determination method (VVS, §§ 363-367) *Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level (ODL) but also describe the applied data aggregation trails (from ODL to data aggregation level zero (DAL0)).* *Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used. Furthermore, verify the frequency of measurements as per the requirements.* *Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.*	/MR/ /ER /PDD/	*Description:* The amount of money employees within the project, either on temporary contract or permanent contract, are compensated either based on the number or technology filters sold (for sales agents or enumerators) or based on a monthly salary (for permanent staff). The parameter is monitored annually and its data was obtained from the GS 1078 Employment Records and Sales per sales agent and Enumerator's employment record. Values obtained are as follows: • 26 people were employed in the filter distribution program. Each person was paid Ksh. 500 for each filter sold. • The highest record of filters sold by the employees is 108 filters where the employee was paid Ksh. 54,000. While the lowest had sold receiving 6 filters and got Ksh. 3,000. • 19 permanent employees working with the project have different pays depending on the position and experience in the project. *Verifier´s action:* The employment records were reviewed and confirmed that sales agents are each paid Ksh, 500 per filter. The VT also confirmed that permanent staff are paid every month, with different pays depending on the technicality of a position, seniority level of the positions and their working experience pertinent to the project.	~~CAR 13~~	OK

		Conclusion: The parameter is monitored in accordance to the registered PDD and the applied methodology.		
		☒ In this context the following findings have been raised: ☒ CAR 13 ☐		
17. Number of people attending training/ workshops on filter installation and maintenance		**Description: This parameter will be collected to demonstrate that the project provides training and workshops on filter assembly, installation, and use**		
Measurement / Determination method (VVS, §§ 363-367) *Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level (ODL) but also describe the applied data aggregation trails (from ODL to data aggregation level zero (DAL0)).* *Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used. Furthermore, verify the frequency of measurements as per the requirements.* *Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.*	/MR/ /ER/ /PDD/ /GSM/ /IM/	*Description:* The parameter demonstrates the presence of training in the project on the assembly, installation and use of BSF, HHF, and IHFF technologies, as well as indicating how people response and turn up for the training. The parameter is monitored annually. Data on the parameter value was obtained from the GS 1078 Training records, and the value obtained is 380.	~~CL 07~~	OK
		Verifier´s action: Training records shared by the PP were reviewed and crosschecked with the values reported in the MR. The records were also checked onsite with the PD, HHs, and institutions to ascertain that users attended training sessions.		
		Conclusion: The parameter is monitored according to the registered PDD and the applied methodology		
		☒ In this context the following findings have been raised: ☒ CL 07 ☐		
18. Number of workshops, seminars organized, and training-related opportunities held.		**Description: This parameter will be collected to demonstrate that the project provides training and workshops on filter assembly, installation, and use**		
Measurement / Determination method (VVS, §§ 363-367)	/MR/ /ER/	*Description:* The parameter demonstrates the presence of training in the project on the assembly,	OK	OK

<table>
<tr><td>Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level (ODL) but also describe the applied data aggregation trails (from ODL to data aggregation level zero (DAL0)).
Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used. Furthermore, verify the frequency of measurements as per the requirements.
Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.</td><td>/PDD/
/GSM/
/IM/</td><td colspan="2">installation and use of BSF, HHF, and IHFF technologies.

Data on the parameter value was obtained from the GS 1078 Training records, and the value obtained is 12 trainings and workshops. The trainings included 11 trainings on Household Water Treatment and Safe Storage (HWTS) training and 1 training done for monitoring survey between ClimateCare Aqua Clara team and 11 enumerators who conducted monitoring surveys.

Verifier´s action:

Training records shared by the PP were reviewed and crosschecked with the values reported in the MR. The records were also checked onsite with the PD, HHs, and institutions to ascertain that users attended the 12 trainings.

Conclusion:

The parameter is monitored according to the registered PDD and the applied methodology.</td><td></td><td></td></tr>
<tr><td></td><td></td><td>☐</td><td>In this context the following findings have been raised:
☐
☐</td><td></td><td></td></tr>
<tr><td>19. SDG 3.9: Number of filters sold</td><td></td><td colspan="2">Description: Number of filters sold as per the Total Sales Records (TSR)</td><td></td><td></td></tr>
<tr><td>Measurement / Determination method (VVS, §§ 363-367)
Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level (ODL) but also describe the applied data aggregation trails (from ODL to data aggregation level zero (DAL0)).
Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used. Furthermore, verify the frequency of measurements as per the requirements.
Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.</td><td>/MR/
/ER/
/PDD/
/GSM/
/IM01 – IM02/</td><td colspan="2">Description:

The parameter is monitored annually. It is determined by counting the total number of filters sold as at the end of a monitoring period in the Total Sales Records for BSF, HHFF and IHFF. The technologies sold to individuals are recorded in the TSR and its quantity is easily obtained from the spreadsheet.

The numbers obtained as at the end of this 8th MP are as follows:
<table><tr><th>Filter</th><th>Number</th></tr><tr><td>BSF</td><td>2,952</td></tr><tr><td>HHFF</td><td>2,212</td></tr><tr><td>IHFF</td><td>141</td></tr></table>
Verifier´s action:

The respective TSR database records were reviewed and crosschecked with the values in the MR for consistency. The values were also confirmed during interviews with the PD and HHs and institutions on site visit.

Conclusion:

The parameter is monitored according to the registered PDD and applied methodology.</td><td>~~CAR 01~~</td><td>OK</td></tr>
<tr><td></td><td></td><td>☒</td><td>In this context the following findings have been raised:</td><td></td><td></td></tr>
</table>

			☒	CAR 01		
			☐			