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

Project/PoA Title:	*GS2404 International Water Purification Programme*
Monitoring Period:	*01/01/2020 to 31/12/2020*
GS project ID:	*2404*
Internal ID:	*BELL_CDM_GS_PoA_VER_16922*
Customer:	*Pure Water Ltd.*
Date:	*14/07/2023*
Revision:	*02*

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SUMMARY			
Reference No.	**Date** *(first version)*	**Version No.**	**Date** *(last version)*
BELL_CDM_GS_PoA_VER_16922	03/07/2023	02	14/07/2023

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

General Information	
Client	Pure Water Ltd.
Project/PoA Title	GS2404 International Water Purification Programme
Project Participants	Pure Water Ltd.
Project Location	Budaka, Kibuku,Manafwa, Mbale, Sironkoand Pallisa, districts in Uganda
Contact Person	Mr.Rohit Garg
Monitoring Period:	01/01/2020 to 31/03/2020 (both days included)

GS4GG Version: 1.2 GS4GG Activity Requirements: PROGRAMME OF ACTIVITY REQUIREMENTS v1.2 Community Services Activity, Version 1.2 Applied Methodology Version: AMS-III.AV. Version 03 Low greenhouse gas emitting safe drinking water production systems Current Methodology Version: AMS-III.AV. Version 05 Low greenhouse gas emitting safe drinking water production systems	GS4GG Sectoral Scope: 2 UNFCCC CDM Sectoral Scope: 3 Technical Area: 3.1
Published Monitoring Report Version: 01 Date: 03/02/2023	Final Monitoring Report Version: 02 Date: 08/06/2023

Certified Project Design Document (CPA)

CPA Title	CPA GS ID	Certified CPA-DD
GS2404 International Water Purification Programme - CPA 2 Chlorine dispensers in Uganda	GS 2735	Version 06.1, dated 19/03/2019
GS2404 International Water Purification Programme - CPA 3 Chlorine Dispensers in Uganda	GS 3668	Version 06.1, dated 19/03/2019
GS2404 International Water purification PoA - Chlorine Dispensers in Uganda - CPA 9	GS 5051	Version 03, dated 15/12/2020
GS2404 International Water Purification Programme- Chlorine Dispensers in Uganda - CPA 10	GS 5052	Version 03, dated 15/12/2020

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Estimated Annual Emission Reductions:

CPA Title	**CPA GS ID**	**Estimated Annual ERs (tons-CO2/year)**
GS2404 International Water Purification Programme - CPA 2 Chlorine dispensers in Uganda	GS 2735	58,286
GS2404 International Water Purification Programme - CPA 3 Chlorine Dispensers in Uganda	GS 3668	44,742
GS2404 International Water purification PoA - Chlorine Dispensers in Uganda - CPA 9	GS 5051	59,339
GS2404 International Water Purification Programme- Chlorine Dispensers in Uganda - CPA 10	GS 5052	57,327

Selected Sustainable Development Goals (SDGs): SDG 6; SDG 8 ;SDG 13

Verification Summary

LGAI Technological Center, S.A. (hereafter referred to as Applus+ Certification) has been contracted by Pure Water Ltd, has performed the independent verification of the emission reductions for the GS PoA "GS2404 International Water Purification Programme" in "Uganda" applying the methodology AMS-III.AV, Version 03. This verification covers the following implemented CPAs:

CPA #	**CPA Title**	**CPA GS ID**
CPA-02	GS2404 International Water Purification Programme - CPA 2 Chlorine dispensers in Uganda	GS 2735
CPA -03	GS2404 International Water Purification Programme - CPA 3 Chlorine Dispensers in Uganda	GS 3668
CPA -09	GS2404 International Water purification PoA - Chlorine Dispensers in Uganda - CPA 9	GS 5051
CPA -10	GS2404 International Water Purification Programme- Chlorine Dispensers in Uganda - CPA 10	GS 5052

The management of Pure Water Ltd is responsible for the preparation of the GHG emissions data and the reported GHG emission reductions.

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

(a) The registered GS PoA-DD and GS CPA -DD, including the monitoring plan and the corresponding validation report.
(b) Monitoring report(s);
(c) The applied monitoring methodology.
(d) Relevant decisions, clarifications, and guidance from the CMP and the CDM Executive Board.
(e) GS4GG version 1.2 requirements.
(f) All information and references relevant to the project activity's resulting in emission reductions.
(g) Approved transition form (GS version 2.2 to GS4GG).
(h) Evidence for CSR activities carried as stated in SD monitoring plan
(i) Training Records of Project staff
(j) HR employment records of the Project staff on site

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

The PoA seeks to further the access of households and communities to clean and safe drinking water, by promoting low greenhouse gas emitting water purification technologies chlorine dispenser system) in the host Parties. The PoA is thus primarily designed for the long-term improvement of the living conditions of local people. The targeted users of such technologies will be households and/or communities. Examples of technologies include, but are not limited to, water filters (e.g., membrane, activated carbon, ceramic filters), solar technologies (Ultraviolet disinfection devices, solar water disinfection SODIS), photocatalytic disinfection equipment, pasteurization appliances, chemical disinfection methods (eg. chlorination), combined treatment approaches (e.g., Flocculation plus disinfection), etc.
The PoA reduces the use and demand for fossil fuels and non-renewable biomass that would have been used to boil water as a mean of water purification in the absence of the Programme of Activities. This directly leads to reduced greenhouse gas emissions. The PoA is implemented by Pure Water Ltd. who is the coordinating/managing entity (hereafter referred to as "CME"), which will be the sole beneficiary of carbon credits from CPAs.

Applus+ Certification confirms that the project is implemented in accordance with the approved transition annex and CPA-DD. The monitoring plan complies with the applied methodology AMS III.AV, Version 03 and the GS4GG Version 1.2. The monitoring has been carried out in accordance with the monitoring plan. The monitoring system is in place and the emission reductions are calculated without material misstatements. Our opinion relates to the projects GHG emissions, and the resulting GHG emission reductions reported and related to the valid and registered project baseline and monitoring and its associated documents. Based on the information reviewed and evaluated Applus+Certification confirms that the implementation of the project has resulted in 169,658 tCO_2e emission reductions during period 01/01/2020 – 31/12/2020.

ASSESSMENT TEAM		
Team Members	**Type of Resource**[1]	**Organization** *(for OEs)*
Lead Auditor: Ravi Kant Soni	☐IR ☒EI ☐OE	-
Technical Expert: Ravi Kant Soni	☐IR ☒EI ☐OE	-
Technical Reviewer: Simon Shen	☐IR ☒EI ☐OE	-

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

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ABBREVIATIONS	
AQL	Acceptable Quality Level
BE	Baseline emissions
CAR	Corrective Action Request
CCSC	China Classification Society Certification Company
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CL	Clarification request
CME	Coordinating/Managing Entity
CPA	Component Project Activity
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
DD	Design Document
DOE	Designated operational entity
DNA	Designated National Authority
EA	Evidence Action
EB	Executive Board
EF	Emission factor
FAR	Forward action request
GHG	Greenhouse gas(es)
IPCC	Intergovernmental Panel on Climate Change
KP	Kyoto Protocol
LoA	Letter of Approval
LE	Leakage emissions
MPN	Most probable number
MR	Monitoring report
NTU	Nephelometric Turbidity Units
NGO	Non-governmental Organization
ODK	Open Data Kit (Mobile App)
PCP	Project Cycle Procedure
PE	Project Emissions
PP	Project Participant
PRC	Post-registration change(s)
PS	Project Standard
PWL	Pure Water Ltd.

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TCR	Total Chlorine Residual
tCO_2e	Tonne of carbon dioxide equivalent
UNFCCC	United Nations Framework Convention on Climate Change
UQL	Unacceptable Quality Level
VVS	Validation and Verification Standard
WQT	Water Quality Test

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Table of Content

Contents

Appendix:

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

Appendix 2: Audit Team CVs.

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1. INTRODUCTION

1.1 Objective

This verification is an independent and objective review for the GS4GG requirement, of the emission reductions achieved by the GS PoA "GS2404 International Water Purification Programme", for the CPAs(CPA-02, CPA -03, CPA -09 and CPA -10), covered for the period 01/01/2020 to 31/12/2020.

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

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

(ii) The approved methodology mention in the CPA-DD

(iii) UNFCCC criteria referred to in the Kyoto Protocol criteria and the CDM modalities and procedures as agreed in the Bonn Agreement and the Marrakech Accords

(iv) The latest GS4GG guidelines version 1.2

(v) CDM Validation and Verification Standard (VVS)

(vi) CDM Project Standard (PS) and Project Cycle Procedure (PCP)

(vii) Relevant decisions, guidance, and clarifications of the CMP and CDM Executive Board and any other information and references relevant to the project activity's reported emission reductions

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

1.2 Scope

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

The verification is based on the submitted monitoring report, the validated and registered PoA-DD and CPA-DDs as well as corresponding validation reports, the applied monitoring methodology, relevant decisions, clarifications, and guidance from the CMP and the EB, The GS4GG Version 1.2 and any other information and references relevant to the project activity's resulting emission reductions. These documents are reviewed against the requirements of the Kyoto Protocol, the CDM Modalities and Procedures, The Gold Standard for the Global Goals version 1.2 and related rules and guidance.

Based on the requirements in the VVS version for PAs version 03.0 as well as the GS4GG version 1.2, Applus+ Certification has applied a rule-based approach for the verification of the project. The principles of accuracy, completeness, relevance, reliability, and credibility were combined with a conservative approach to establish a traceable and transparent verification opinion.

The verification process involved the following.

- Contract with Pure Water Limited for the scope of verification.
- Submission of monitoring report and supporting documents
- Desk review
- On-site inspection
- Issuance of verification findings
- Reporting, calculation checks, QA/QC and resolution of findings
- Issuance of draft verification report
- Independent technical review of the project documentation
- Issuance of the final verification report

1.3 Description of the project activity

CPA #	CPA GS ID	Date of GS registration	Number of functional dispensers	Location
CPA -02	GS 2735	17/07/2014	1,089	Budaka, Kibuku, Manafwa district (Tsekukulu, Mukoto, Buwabala, Bukhabusi, Bukhaweka, Bupoto, Namabaya, Bumbu and Bukhoko sub- counties)
CPA -03	GS 3668	15/04/2015	966	Manafwa (Bubutu, Bukiabi, Bumwoni, Lwakhakha TC, Magale, Namboko, Bugobero, Bukhofu, Bukhusu, Bunabwana, Busukuya, Butiru, Butta, Buwagogo, Kaato, Khabutoola, Manafwa TC, Nalondo, Sibanga, Sisuni and Wesswa sub- counties), Mbale district (Bubyangu, Bufumbo, Bukhiende,Lukhonge, Busiu, Bumasikye, Busoba, Nyondo and Busanosub- counties)
CPA -09	GS 5051	13/09/2016	1,152	Budadiri East and Budadiri West in Sironko District, Bungokho North and Bungokho South in Mbale District
CPA -10	GS 5052	13/09/2016	665	Agule, Pallisa and Butebo, Pallisa District

The CPAs covered in the monitoring period are developed under the Small-Scale GS Programme of Activities (PoA) titled "GS2404 International Water Purification Programme" PoA for reduction

of emissions from non-renewable fuel from boiling of water at household level". The project is coordinated and managed by Evidence Action (EA).

The PoA reduces the use and demand of non-renewable biomass that would have been used to boil the water as a mean of water purification in the absence of the PoA. This directly leads to reduced greenhouse gas emissions. This PoA is thus primarily designed for the long-term improvement of the living conditions of the local communities in this part of rural Uganda.

Double counting of carbon credits:

a) The project activity is not registered under any other emissions trading program or any other mechanism that includes GHG allowance trading.

b) The PoA is also registered under CDM PoA (UN-5962) and his verification report doesn't include the verification of the GHG parameters but only review the additional requirements for GS labelling the issued CERs for period from 01/01/2020 to 31/12/2020.

c) The project is not registered under international REC Mechanism e.g. I-REC Device Registry and the same is confirmed through the i-REC web site (https://v-1.evident.app/Public/ReportDevices/)

The assessment team can confirm that there is no double counting of credits is anticipated in the current monitoring period.

2. METHODOLOGY

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

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

• Activities associated with all the sources contributing to the project emissions and emission reductions, including leakage if relevant;

• Protocols used to estimate or measure GHG emissions from these sources;

• Collection and handling of data;

• Controls on the collection and handling of data;

• Means of verifying reported data; and

• Compilation of the monitoring report.

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

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

2.1 Appointment of the assessment team

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

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

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

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

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

Name	Role	SS Coverage	TA Coverage	Financial aspect	Host country experience
Ravi Kant Soni	LA/TE	Yes(3)	Yes (3.1)	NA	Y
Simon Shen	TR	Yes(3)	Yes (3.1)	NA	NA

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

2.2 Document review

The Gold Standard Monitoring Report version 1.0 /01/ was submitted to VVB before the verification activities started. The MR was assessed based on all the relevant documents. The aim of the assessment in the desk review was to:

- verify the completeness of the data and the information presented in the MR;

- check the compliance of the MR with respect to the monitoring plan depicted in the registered PDD and Passport; verify that the applied methodology was carried out. Particular attention to the frequency of measurements, the quality of the metering equipment including calibration requirements, and the quality assurance and quality control procedures was paid;

-evaluate the data management and the quality assurance and quality control system in the context of their influence on the generation and reporting of emission reductions.

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

2.3 On site assessment and follow up interviews

As a part of the verification, the site inspection has been performed by the assessment team from 07/02/2023-11/02/2023.

Duration of on-site inspection: 07/02/2023-11/02/2023				
No.	**Activity performed on-site**	**Site location**	**Date**	**Team member**
1	• On site verification of project implementation through interviews with households selected from the sampling plan, • Training records • QA/QC procedures • Controls established to detect and correct any error or omission in monitoring parameters. • Testing of monitoring equipment and observation of monitoring practices • Maintenance procedures • Grievance Mechanism	Budaka, Kibuku, Manafwa, Mbale, Sironko and Pallisa, districts in Uganda	07/02/2023-11/02/2023	Ravi Kant Soni

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Interviews with project participants:

No.	Interviewee			Subject	Team member
	Last name	First name	Affiliation		
1.	NGOGA	Gabriel	Implementer: EA-Uganda	Monitoring survey SDGs monitoring/Impact Monitoring Report, Sampling methodology, Water Quality Implementation, Records Operation and Management ER calculations.	Ravi Kant Soni
2.	WANDERA	Mixie			
3.	WERIKHE	Susan			
4.	MUGIDE	Emma			
5.	OLUPOT	Basil			
6.	WADADA	James			
7.	NANZALA	Hilda			
8.	NAMISI	Sandra			
9.	NABUSAYI	Lydia			
10.	BBUYI	Julius			
11.	KANENE	Tom			
12.	NAKAYENZE	Stella			
13.	OCAMA	Andrew	Evidence Action (EA) -Region Coordinator		
14.	YANG	Xuan	CME: Pure Water Ltd. (PWL)		
15.	DUAN	Jane			
16.	JOSHI	Akash			

Interviews with end-users/ promotors:

No.	Name	Water Point ID	Role
1.	MUKENYE MUSA	7020955	Promotor
2.	NASIB TOPISTA	7020955	User
3.	DAMBA OLIVER	7020955	Assistant Promotor
4.	PATRICK MUBALE	7020955	User
5.	JANE NANGALE	7020955	User
6.	WAMUTU VINCENT	7030272	User
7.	NAMONYWE MADONA	7030272	User
8.	NAMWAKI FLORENCE	7030272	User
9.	MAYAMA CONSTANT	7030272	User
10.	LINDA AUMA (Roseline Wanyando)	7030272	Promotor
11.	MASABA STEPHEN	7030522	Promotor
12.	WATERA OLIVER	7030522	User

No.	Name	Water Point ID	Role
13.	CATHERINE MUNIALO NABIFU	7030522	User
14.	NAMBUYA MARY MUYOKA	7030522	Assistant Promotor
15.	MUKITE MARY	7030522	User
16.	MUKHWANA SYLIVIA WATTI	7030628	Promotor
17.	SYLVIA NAKHABI	7030628	User
18.	SARAH NANYAMA	7030628	User
19.	NAMBUYA WINNIE	7030628	User
20.	LORNA WANYONYI	7030628	User
21.	CHARLES WADULO	7040457	Promotor
22.	IMMACULATE NAMUKUTA	7040457	Assistant Promotor
23.	FLORENCE ZEMEYI	7040457	User
24.	NAMBAZO KATE	7040457	User
25.	WANYENZE ESTHER	7040457	User
26.	TWAHA GIBEDYA GUDEI	7050099	Promotor
27.	NAGUDI SARAH	7050099	User
28.	GLADYS NAMASABA	7050099	User
29.	MUTELENGI IRENE	7050099	User
30.	LUBANGO NURU	7050099	User
31.	TEGGU YEKU	70060090	Promotor
32.	MULEPO YEKONANI	70060090	Assistant Promotor
33.	HASAKYA SOWALI	70060090	User
34.	ZAITUNA NELIMA	70060090	User
35.	TWAHA JANET KAIDU	70060090	User
36.	WANENE FLORA	70110001	Promotor
37.	ISOBYA MADINA	70110001	User
38.	AGNES RUTH	70110001	User
39.	KAYINZA LAMULA	70110001	User
40.	SUZANO KADYOLI	70110001	User
41.	NYABURU ELIZABETH	70120194	Promotor
42.	ATHIENO MARGRETE	70120194	User
43.	ALWENYI CHRISTINE	70120194	Assistant Promotor
44.	ODOL JOSHUA	70120194	User
45.	ADIKIN BEATRICE	70120194	User
46.	JANGOLI SEPIRIANO	70110303	Promotor
47.	TAKALI GETRUDE	70110303	User
48.	JUNGU GEORGE	70110303	User

No.	Name	Water Point ID	Role
49.	SIKOLA ESAPALI	70110303	User
50.	NAKAMYA IRENE	70110303	User
51.	DERA DAUDA	7020602	Promotor
52.	MWAJUMA WOTALI	7020602	User
53.	WANENE JUSTIN	7020602	Assistant Promotor
54.	BAYA ANGELLA	7020602	User
55.	MUDONDO AIDAH	7020602	User
56.	NAGOLITI BRENDA	7020832	User
57.	KAKIRYO SAM	7020832	User
58.	TAZENYA GEOFFREY	7020832	Promotor
59.	LOGOSE CATHERINE	7020832	Assistant Promotor
60.	KAANYI ZEULOSISI	7020832	User
61.	MUYONJO STEPHEN	70060416	Promotor
62.	WAGULO DOMINIKO	70060416	Assistant Promotor
63.	MUNYAKHA YAZIDI	70060416	User
64.	HANDERE MARGRET	70060416	User
65.	ESINASI HAMBA	70060416	User
66.	HARRIET KAGOYA	70070100	Promotor
67.	ASAN AMINA	70070100	User
68.	BATUCHAYE SHARIFF	70070100	Assistant Promotor
69.	BILALI KISAMU	70070100	User
70.	KYOBE JOHN	70070100	User
71.	AKELLO JANE	70120566	Promotor
72.	KAITAMYAKA ROSEMARY	70120566	User
73.	AWORI SHARON	70120566	User
74.	ODOL PIUS	70120566	Assistant Promotor
75.	OKELLO JOHN	70120566	User
76.	OLWALO JAMES	7030091	Promotor
77.	KHAISTA GRACE	7030091	User
78.	MURUNGA AGATAH	7030091	User
79.	KHARUNDA SYLVIA	7030091	User
80.	NYAKECHO YERUSA	7030091	User
81.	NAMBOZO ADIYA	7050861	Promotor
82.	WAFUBA ASUMAN	7050861	User
83.	NAMAWEJJE JENILU MASABA	7050861	User
84.	MAFABI SIRAJI	7050861	User

No.	Name	Water Point ID	Role
85.	NAMBOZO SARAH	7050861	User
86.	EMILLY KAMILIGANYA	7040437	User
87.	JALIA NAKASANGA	7040437	Promoter
88.	JACKLINE MUGEDE	7040437	User
89.	BEATRICE NAGUDI	7040437	Assistant Promotor
90.	BETTY WABUDEYA	7040437	User

The end users were asked the following questions.

- Has your household been surveyed by Evidence Action in 2020?
- Has someone from your household attended a community education meeting provided by Evidence Action for properly using the dispenser?
- Do you know how to properly use the chlorine dispenser?
- Do you usually use the dispenser to purify drinking water?
- What is your primary use for chlorinated water?
- How much of your chlorinated water is used for Drinking?

The promotors (also an end user) were asked the following questions.

- Do you know the approximate number of households using this dispenser?
- Have you been hired by Evidence Action (EA) as the promoter?
- Have you been trained by EA for the management of the dispenser?
- What is the frequency for you to check/inspect status of the dispenser?
- In 2020, was any chlorine lost, from the time that you received the jerrican of chlorine to the time that the chlorine was put into the dispenser?
- Is chlorine used for any purposes other than treating water by the local communities?
- What measures are in place to prevent chlorine wastage (e.g. by children) and/or overdosing?
- How long does a 5L-jerrican of chlorine last for refilling the dispenser (e.g.? week, month)
- What is your primary use for chlorinated water?
- How much of your chlorinated water is used for Drinking?

Positive feedback was received from the end-users/promotors regarding the functionality of dispenser's, water quality, uses of water during the interview conducted by the auditor.

2.4 Quality of evidence

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

2.5 Reporting of findings

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

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

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

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

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

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

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

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

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

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

2.6 Internal Quality Control

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

3. VERIFICATION FINDINGS

Areas of verification findings	No. of CR	No. of CAR	No. of FAR
Compliance of the monitoring report with the monitoring report form	-	-	-
Compliance of the project implementation with the registered PDD	-	-	-
Post-registration changes	-	-	-
Compliance of the SDG monitoring plan with the monitoring methodology including applicable tool and standardized baseline	-	CAR #2	-
Compliance of monitoring activities with the registered monitoring plan	-	CAR#1	-

Compliance with the calibration frequency requirements for measuring instruments	-	-	-
Assessment of data and calculation of emission reductions or net removals	-	CAR#2	-
Others (Editorial error)	CL #01 (typo error)	-	-
Total	01	02	-

3.1 FARs from Validation / Previous Verification

There are no FARs were raised during last verification.

3.2 Project Implementation in accordance with the registered Project Design Document

Means of verification	The registered GS PoA-DD/05/ & CPA-DDs/07/ was reviewed to identify the key design features, eligibility requirements and monitoring requirements for the CPA operations. The verification team carried out checks during the site visit to assess the compliance of the CPA operations with the PoA design, physical features, and monitoring provisions. The CPAs included in the PoA aims to provide clean and safe drinking water to households and communities of Uganda, by promoting low greenhouse gas emitting water purification technologies. The CME has implemented chlorine dispensers in rural communities in Uganda. The overall responsibility of implementation and operation of the CPA lies with CME (Pure Water Ltd.), which was also evident during the site visit. During the on-site visit the assessment team has: i. Physically verified the location and geo-coordinates of the dispensers via mobile App (Get Geo- coordinates) ii. Checked the dispensers, QC certificates and specifications for components, and Installation Records, to confirm that the project equipment installation is consistent with the PoA-DD and CPA-DDs/09/. iii. Interviewed relevant personnel for the project implementation information and assessed the construction and implementation status with the Installation Records and the ODK Raw Data to check the implementation status of the Project /16//25/. iv. Interviewed the promoters and households and surveyed/checked the monitoring parameters. v. Reviewed ODK operation procedure and ODK Raw Data to confirm the Project has been operated as per the PoA-DD and CPA-DDs. Furthermore, there is no event or situation occurred during the monitoring period that may have impacted the applicability of the applied methodology AMS-III.AV. Version 03. The number of dispensers and start date of installation for the CPAs (CPA-02, CPA-03, CPA-09 and CPA-10) that were included in the PoA in this monitoring period is provided in the below table:

CPA	No. of eligible Dispensers Installed	Dispensers' installation Start date
CPA-02	1,148	08/04/2013
CPA-03	1,012	22/01/2014
CPA-09	1,195	03/08/2014
CPA-10	821	27/04/2015

Based on the observations during the on-site visit and review registered CPA-DDs & corresponding validation reports, the assessment team can conclude that the physical project boundaries of the CPAs are clear, and each dispenser can be identified by its unique ID and GPS locations.

The assessment team physically verified the dispensers and checked the dispenser database against each CPA-DDs, and confirms the information is consistent.

Sampling approach:

CME's Sampling Approach:

As indicated in Section D.4 of the monitoring report, three parameters were determined through surveys i.e., Water quality, Fraction of water treated with the dispenser that is actually drunk (Drink %) and Fraction of delivered chlorine available for use in dispenser (Refill%).
The sampling design was implemented in line with the Section D.7.2 of included CPA-DDs and approved TRFs/10/.
Three parameters for each CPAs have been monitored by grouped survey, as all the implemented CPAs have applied the same technology and are in the same country, which complied with the approved PoA-DD and included CPA-DDs /9/.
The CME has applied clustered sampling approach for Drink% and Water quality and simple random sampling approach for Refill%. The 95/10 confidence/precision requirement has been fulfilled. The complete details of CME's sampling are included under section D.4 of the monitoring report.
The sampling method was found appropriate for the survey. The CME demonstrated to the satisfaction of the verification team that the survey conducted was free of any bias, calculation errors or any misinterpretation/misrepresentation of recorded data.

VVB Sampling Approach:
To meet the requirements of Standard for Sampling and surveys for CDM project activities and Programmes of activities version 09.0, the verification team applied acceptance sampling in the verification (in accordance with para 28). The verification team selected random samples of CME's sampled records, checked the acceptability (or otherwise) of the data for each such record with CME's sample records, and then based on the number of records where there is an agreement, determined if the CME's sample records meet the requirements.

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

- The proportion of discrepancies between the CME's data and verification team's (field or onsite inspection results) data that can be considered acceptable. This is referred to as the AQL (Acceptable Quality Level): 1% was considered in this verification.
- The proportion of discrepancies between the CME's data and verification team's (field or onsite inspection results) data that would be considered unacceptable. This is the UQL (Unacceptable Quality Level): 20% was considered in this verification.
- The producer risk: 5% was considered.
- The consumer risk: 10% was considered.

Considering the above input values, a sample size of 18 was required as per Table (Sample size and acceptance number based on AQL, UQL, and producer and consumer risks) in the referred Standard.
Accordingly, the acceptance number (c) thus determined for the sample size is 1.

AQL	1%
UQL	20%
Producer risk	5%
Consumer risk	10%
Sample size	18
Acceptance Number (c)	1

Actual samples checked for individual parameters are provided in the below table:

Parameters	**Sample Size and Remark**	**Acceptance Criteria for each response**	**Acceptance Number (c)**

Water Quality	**Sample size: 36** The recommended sample size and acceptance number are 18/1 in the sampling-tool. **Remark:** The DOE has surveyed 18 water points randomly. For all the 18 waterpoints, 2 interviewees are randomly required a cup of chlorinated drinking water for TCR test onsite and further E.coli test in CME's laboratory.	E.coli<10CFU/100ml	1
Drink%	**Sample size: 90** The recommended sample size and acceptance number are 18/1. **Remark:** The DOE has randomly interviewed 5 users (usually, promoter is also a user) around each dispenser listed in the verification field survey.	One response is lower than the respondent's original answer	1
Refill%	**Sample size: 30** The recommended sample size and acceptance number are 18/1 in the sampling-tool. **Remark:** In the randomly selected 18 waterpoints, 1-2 promoters are interviewed for each dispenser.	No lost	1

The verification team has designed questionnaires for Promoter and User separately. Besides the parameters mentioned above, the verification team also obtained the information of household (Name, household size), user habit and frequency, promoter check and refill frequency, etc.

	The verification team also inspected the information of the waterpoints (Name and waterpoint ID), location, installation date and functionality of dispensers.
Findings	CAR #1 was raised and resolved.
Conclusion	Applus+Certification is of the opinion that: (i) The implementation status and equipment installation of the GS-CDM project activity are consistent with the registered PoA-DD and the approved transition document. (ii) The actual operation of the GS-CDM project activity is as per registered CPA-DD and the approved transition document. (iii) Information (data and variables) provided in the monitoring report is in accordance with that stated in the registered CPA-DD and the approved transition document.

3.3 Compliance of the Monitoring Plan with the Monitoring Methodology

Means of verification	Based on this review it was found that the monitoring plan contained in the registered CPA-DD/09/ includes all the required parameters to be monitored in the context of the CPA design and description and allows proper determination of emission reductions in accordance with CPA-DD/9/ and applied methodology AMS-III.AV. Version 03/39/.
Findings	No issues identified in section hence finding was not raised.
Conclusion	All monitoring parameters, monitoring procedures follow the methodology requirements and registered monitoring plan.

3.4 Completeness of Monitoring

Data and parameters fixed ex ante or at renewal of crediting period:

The verification team has determined whether all ex-ante parameters used for emission reduction calculation stated in the monitoring plan are used appropriately as per the filled in templates. As per the registered CPA-DDs and the approved transition annex/10/ of the Project, three SDG relevant targets and indicators have been selected in accordance with the requirement of GS4GG:

SDG 13: Climate Action

SDG 8: Decent Work and Economic Growth

SDG 6: Clean water and sanitation

Parameter	Relevant SDG Indicator	Value in CPA-DD and VVB Assessment
$EF_{projected\_fossil\ fuel}$	SDG 13.2.1	The parameter represents the emission factor of the substitution fuels likely to be used by similar users, on a weighted average basis, which used in the monitoring report (81.6 tCO2/TJ) has been verified against the PoA-DD and CPA-DDs, and found that consistent with the methodology AMS-I.E Ver.05.
Specific heat of water (WH)	SDG 13.2.1	The parameter used in the monitoring report is 4.186 kJ/L °C, which has been verified against the PoA-DD and CPA-DDs, the methodology AMS-III.AV and found them to be consistent.

<table>
<tr><td></td><td></td><td></td></tr>
<tr><td>Final temperature (Tf)</td><td>SDG 13.2.1</td><td>The default value of boiling point of water at standard conditions of 100°C has been applied in the MR, which is consistent with the PoA-DD and CPA-DD and the applied methodology.</td></tr>
<tr><td>Initial temperature (Ti)</td><td>SDG 13.2.1</td><td>The default value of initial temperature of 20°C has been applied in the MR, which is consistent with the PoA-DD and CPA-DD and the applied methodology.</td></tr>
<tr><td>Latent heat of water evaporation (WHE)</td><td>SDG 13.2.1</td><td>The default value of 2,260 kJ/L has been applied in the MR, which is consistent with the PoA-DD and CPA-DD and the applied methodology.</td></tr>
<tr><td>Efficiency of the water boiling system being replaced (ηwb)</td><td>SDG 13.2.1</td><td>The default value of 10.83% (CPA-2), 10.92%(CPA-3), 10.65% (CPA-9) and 10.44%(CPA-10), have been applied in the MR, which is consistent with the PoA-DD and CPA-DDs and the applied methodology.
The verification team has also checked the value against the Baseline Survey Records /37/ and found consistent.</td></tr>
<tr><td>Non-Renewable Biomass factor (fNRB)</td><td>SDG 13.2.1</td><td>The ex-ante default value of 82% has been applied in the MR, which is consistent with the PoA-DD and CPA-DDs and is consistent with the default country-specific fNRB values approved by the Board /39/.</td></tr>
<tr><td>Capacity of the water purification equipment (LP)</td><td>SDG 13.2.1</td><td>The default value of 32,971 Liters/refill (CPA-2), 32,680 Liters/refill (CPA-3), 33,115 Liters/refill (CPA-9), 33,293 Liters/refill (CPA-10), have been applied in the MR, which is consistent with the CPA-DDs and the validation reports.
The parameter was determined ex-ante in CPA-DDs, which was calculated based on 3 ml dose of solution treats 20 Liters of water if turbidity is below 10 NTU (Nephelometric Turbidity Units) and 6ml if turbidity is above 10 NTU, and the value of LP is calculated by (5,000 ml/average ml) * 20 L.</td></tr>
<tr><td>Number of persons supplied with purified water from each of the functional project appliances (POP_P)</td><td>SDG 13.2.1</td><td>The default values have been applied in the MR as the following table, which is consistent with the CPA-DDs, the validation reports, baseline survey records and the methodology AMS-III.AV. Version 03.
<table>
<tr><th>CPA</th><th>POP_P in the CPA-DD</th><th>Updated POP_P in the PCC</th></tr>
<tr><td>CPA-02</td><td>301</td><td>199</td></tr>
<tr><td>CPA-03</td><td>286</td><td>157</td></tr>
<tr><td>CPA-09</td><td>243</td><td>176</td></tr>
<tr><td>CPA-10</td><td>336</td><td>229</td></tr>
</table>
POPp is an ex-ante parameter for CPAs falling under Case 1 as per the applied methodology AMS-III.AV Version 03 paragraph</td></tr>
</table>

		3a, and it is used to determine the maximal allowed value for parameter QPWy (quantity of purified water) which can be used for the emission reduction calculation. The number of households per dispenser (POPp) was established as part of the Water Point Inspection conducted by Evidence Action at CPA validation stage by visiting each water point.
Average volume of drinking water per person per day (DW_{POP})	SDG 13.2.1	The default value of 3.5 Liters/person/day has been applied in the MR, which is consistent with the CPA-DDs, which has not exceeded the value of 5.5 litters per person per day as per the applied methodology /39/.
$POP_{Boiling}$	SDG 13.2.1	For Case 2, the values of 85.9% (CPA-9) from Baseline Survey have been applied in the MR, which is consistent with the CPA-DDs. The other CPAs fall under Case 1 per paragraph 3(a) in AMS-III.AV. Version03 and thus $POP_{Boiling}$ does not need to be considered.
Ex-ante determined parameters for the project emissions from fossil fuel combustion.	SDG 13.2.1	No consumption of fossil fuel by chlorine dispenser, which has been confirmed by the assessment team by on-site inspection for this monitoring period.
Ex-ante determined parameters for the project emissions from electricity consumption	SDG 13.2.1	No consumption of electricity by chlorine dispenser, which has been confirmed by the assessment team by on-site inspection for this monitoring period.
Fractional increase in NRB usage by households outside the project boundary (leakage)	SDG 13.2.1	The default value of 0.95 has been applied in the MR, which is consistent with the CPA-DDs and the methodology AMS-I.E. Version 5 /40/.

3.5 SDG Outcomes Monitoring

Parameter 1: Quantity of purified water in year y (QPW_y)

Relevant SDG Indicator 13.2.1: Amount of GHGs emissions avoided or sequestered

Means of verification

As per the registered CPA-DDs and methodology AMS-III.AV. Version 03, the quantity of purified water is derived from the device specification, monitored number of functional project appliance, monitored number of chlorine refills, and two adjustment factors (Refill% and Drink%)

$QPW_y = MIN (L_P * N_y * Refill\# * Refill\% * Drink\%, CAP)$

L_P: Capacity of the water purification equipment (has been determined ex-ante as listed in section E.3.4.1.

The other parameters have been verification in section E.3.4.2 of the report.

CPA	$QPW_{y,sample}$ (L)	L_P (L)	N_y	Refill#	Refill%	Drink%	$POP_{Boiling}$
CPA-02	257,396,660	32,971	1,089	7.27	99.78%	98.80%	100%
CPA-03	196,232,570	32,680	966	6.31	99.78%	98.80%	100%
CPA-09	210,571,927	33,115	1,152	6.52	99.78%	98.80%	85.9%
CPA-10	178,579,705	33,293	665	8.18	99.78%	98.80%	100%

As per the registered PoA-DD and CPA-DDs, the calculated value should be subject to the CAP based on the number of persons supplied with purified water from each of the functional project appliances (POP_P) multiplied by the average volume of drinking water per person per day (DW_{POP}.)

CPA	N_y	POP_P	DW_{POP}	Operational days	$POP_{Boiling}$	$QPW_{y,cap}$ (L)	QPW_y
CPA-02	1,089	199	3.5	366	100%	277,606,791	257,396,660
CPA-03	966	157	3.5	366	100%	194,279,022	194,279,022
CPA-09	1,152	176	3.5	366	85.9%	223,104,043	210,571,927
CPA-10	665	229	3.5	366	100%	195,077,085	178,579,705

Findings: No Finding was raised

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

Parameter 2: Number of functional chlorine dispensers in monitoring period (Ny)

Relevant SDG Indicator 13.2.1: Amount of GHGs emissions avoided or sequestered

Relevant SDG Indicator 6.1.1: Proportion of population using safely managed drinking water services

<table>
<tr><td>Means of verification</td><td>The value is derived from regular functionality checks. In case a dispenser was found to be non-functional, the status of the respective dispenser was recorded as "non-functional" in the central database, and it will be excluded from the emission reduction calculation for the whole monitoring period.

The verification team has checked the dispenser installed and the functionality rate with the ODK Raw Data and found consistent.

Monitoring Frequency:

As per the registered CPA-DDs, the physical inspection of all dispensers should be performed at least annually for the CPAs. The verification team has checked the spot-check records /17/ and found the spot-check has been performed in rotation.

<u>Values of monitored parameter:</u>

<table>
<tr><th>CPA</th><th>Number of eligible dispensers installed</th><th>Dispenser functionality rate</th><th>N_y</th></tr>
<tr><td>CPA-02</td><td>1,148</td><td>94.9%</td><td>1,089</td></tr>
<tr><td>CPA-03</td><td>1,012</td><td>95.5%</td><td>966</td></tr>
<tr><td>CPA-09</td><td>1,195</td><td>96.4%</td><td>1,152</td></tr>
<tr><td>CPA-10</td><td>821</td><td>81.0%</td><td>665</td></tr>
</table>
During the on-site visit, the verification team has randomly sampled 18 dispensers and found all of them are functional, and the dispenser functionality rate in the ER calculation is conservative. And the values are consistent with the Dispenser Installation Records /25/ and spot-check records /17/.</td></tr>
<tr><td>Findings</td><td>No CARs/CLs/FARs raised in this section.</td></tr>
<tr><td>Conclusion</td><td>The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.</td></tr>
</table>

Parameter 3: Average number of refills per functional dispenser per year (Refill#)

Relevant SDG Indicator 13.2.1: Amount of GHGs emissions avoided or sequestered

<table>
<tr><td>Means of verification</td><td>During the on-site visit, the assessment team has verified the chlorine delivery and stock records. Each time when new chlorine is delivered to a promoter, the number of containers delivered and the number of containers in stock are recorded in the chlorine delivery and stock records, and the number of containers in stock before last refill in every calendar year was also recorded in chlorine delivery and stock records. As per the registered CPA-DDs, it was assumed that the chlorine was consumed constantly.

Monitoring Frequency:

As per the registered CPA-DDs, the parameter should be monitored annually, the verification team has checked the Chlorine Delivery and Stock Records and confirmed the monitoring frequency is in line with the included CPA-DDs.

Values of monitored parameter:

The verification team checked the Chlorine Delivery and Stock Records/database and found the number of refills of the functional dispensers during this monitoring period is counted and calculated correctly.

<table>
<tr><th>CPA</th><th>Refill#</th></tr>
<tr><td>CPA-02</td><td>7.27</td></tr>
<tr><td>CPA-03</td><td>6.31</td></tr>
<tr><td>CPA-09</td><td>6.52</td></tr>
<tr><td>CPA-10</td><td>8.18</td></tr>
</table>
</td></tr>
<tr><td>Findings</td><td>No CARs/CLs/FARs raised in this section.</td></tr>
<tr><td>Conclusion</td><td>The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.</td></tr>
</table>

Parameter 4: Fraction of delivered chlorine available for use in dispenser (Refill%)

Relevant SDG Indicator 13.2.1: Amount of GHGs emissions avoided or sequestered

<table>
<tr><td>Means of verification</td><td>The parameter is monitored by grouped promoter survey for the CPAs, and a total of 467 randomly selected promoters were interviewed with the survey question of "From the time that you receive the jerrican of chlorine to the time that the chlorine is put into the dispenser, is any chlorine lost?"

The verification team found the sample is in line with the sample plan in the registered CPA-DDs.

<u>Monitoring Frequency:</u>

As per the registered CPA-DDs, the parameter should be monitored annually, with a total of 467 promoters were sampled.

The verification team has checked the result of promoter surveys from the ODK Raw Data /16/ and found consistent with that in the ER spreadsheet. And the</td></tr>
</table>

<table>
<tr><td></td><td>monitoring frequency is complied with the requirement of the CPA-DDs and the applied methodology.

<u>Values of monitored parameter:</u>
<table>
<tr><th>Refill%</th><th>Value</th></tr>
<tr><td>2020</td><td>99.78%</td></tr>
</table>
The verification team has checked the result of promoter surveys from the ODK Raw Data /16/ and found consistent with that in the ER spreadsheet /4/. The verification team reviewed the sample size determination and Reliability Calculation of the promoter surveys and reproduced the same result as per the Standard: Sampling and surveys for CDM project activities and programme of activities /41/, Guideline: Sampling and surveys for CDM project activities and programme of activities /48/, and Sample Size Calculator /49/.

The verification team has checked the calculation and corresponding precisions and confirmed the values of Refill% in 2020 were calculated correctly as per the monitoring plans. And the team also confirms the adopted value for each CPA for the monitoring period is reasonable.

During the on-site visit, the assessment team interviewed promoters with the questionnaires, and confirmed that no chlorine was lost.

Therefore, the assessment team can accept the value and confirm it is accurate.</td></tr>
<tr><td>Findings</td><td>No CARs/CLs/FARs raised in this section.</td></tr>
<tr><td>Conclusion</td><td>The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.</td></tr>
</table>

Parameter 5: Fraction of water treated with the dispenser that is actually drunk (Drink %)

Relevant SDG Indicator 13.2.1: Amount of GHGs emissions avoided or sequestered

<table>
<tr><td>Means of verification</td><td>The parameter is monitored by grouped survey for the CPAs with clustered sampling approach. Households were interviewed for each dispenser on how much their chlorinated water is used for drinking. As a result, responses from households those had total chlorine residual in their stored drinking water were used for calculating Drink%.

The verification team has verified the sample is in line with the sample plan in the included CPA-DDs.

Monitoring Frequency:

As per the registered CPA-DDs, the parameter should be monitored at least annually. And during this monitoring period, the survey has been performed in 2020.

Values of monitored parameter:

Drink% is a proportional value as the response to "How much of your chlorinated water is used for [primary use]?" could be chosen by the respondent as:
<table>
<tr><th>All</th><th>Almost</th><th>Most</th><th>About</th><th>Some</th><th>Little</th><th>None</th></tr>
</table></td></tr>
</table>

	<table><tr><td></td><td>**all**</td><td></td><td>**Half**</td><td></td><td></td><td></td></tr><tr><td>100%</td><td>90%</td><td>75%</td><td>50%</td><td>25%</td><td>10%</td><td>0%</td></tr></table> The verification team has checked the result of monitoring survey from the ODK Raw Data /21/ and found consistent with that in the ER spreadsheet. <table><tr><th>CME Drink% Survey</th><th>Value</th></tr><tr><td>Between 02/11/2020 and 02/12/2020</td><td>98.80%</td></tr></table> The verification team reviewed the sample size determination and Reliability Calculation of the monitoring survey and reproduced the same result as per the Standard: Sampling and surveys for CDM project activities and programme of activities /41/, Guideline: Sampling and surveys for CDM project activities and programmes of activities /42/, and Sample Size Calculator /43/. During the on-site visit, the assessment team interviewed the promoters/users, and the result of Drink% survey is within the threshold, and then the assessment team concluded the Drink% data is acceptable during this monitoring period.
Findings	No CARs/CLs/FARs raised in this section.
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.

Parameter 6: Water quality

Relevant SDG Indicator 13.2.1: Amount of GHGs emissions avoided or sequestered

Means of verification	In accordance with the registered CPA-DDs, the parameter is indicated by the presence of up to 10 E.coli CFU/100ml for the purified water. Hach Color Wheel is used to determine Total Chlorine Residual (TCR) and IDEXX machine is used for testing E.coli. **Monitoring Frequency:** As per the registered CPA-DDs, the parameter should be monitored at least annually. And during this monitoring period, the survey has been performed in 2020. **Values of monitored parameter:** The verification team has checked the result of monitoring survey from the ODK Raw Data /21/, and found consistent with that in the ER spreadsheet. <table><tr><th>Water Quality Survey</th><th>Value</th></tr><tr><td>Between 02/11/ 2020 and 02/12/2020</td><td>95.19%</td></tr></table> The verification team reviewed the sample size determination and Reliability Calculation of the monitoring survey and reproduced the same result as per the Standard: Sampling and surveys for CDM project activities and programme of activities /41/, Guideline: Sampling and surveys for CDM project activities and programmes of activities /42/, and Sample Size Calculator /43/.

	During the on-site visit, the assessment team physically checked the water samples test results, and the water quality is within the thresholds, and then the verification team concluded the water quality data is acceptable during this monitoring period.
Findings	No CARs/CLs/FARs raised in this section.
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.

Parameter 7: Existence of public distribution network supplying safe drinking water

Relevant SDG Indicator 13.2.1: Amount of GHGs emissions avoided or sequestered

Means of verification	As per the registered PoA-DD, the parameter should be monitored at least annually through the interviews with officials, end-users, NGOs, or local experts or published reports, maps, pictures, official documents. **Monitoring Frequency**: In line with the registered CPA-DDs, monitoring frequency for this parameter is followed during the monitoring period. Interviews have been conducted with local officials in District Water Offices in October 2020 /33/. The information given by the personnel was confirmed and the interview records were provided to the verification team. **Values of monitored parameter**: The conclusion was found consistent as witnessed during the verification team's field survey. Based on the on-site visit observations and interview with the officials via telephone, the assessment team confirmed that no public distribution network supplying safe drinking water exists in the project boundary, and no dispenser has been affected.
Findings	No CARs/CLs/FARs raised in this section.
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.

Parameter 8: Number of persons supplied with purified water from each of the functional project appliances (POPy)

Relevant SDG Indicator 13.2.1: Amount of GHGs emissions avoided or sequestered

Relevant SDG Indicator 6.1.1: Proportion of population using safely managed drinking water services

Means of verification	Number of persons supplied with purified water from each chlorine dispenser (POPy) of Case 2 CPAs (CPA-9) should be checked annually and biennially respectively. For other CPAs which fall under Case 1, as per paragraph 3(a) in AMS-III.AV version 03, POPy is an ex-ante determined value as POP_P and does not need to be updated.

	<table><tr><th>CPA</th><th>POP_y</th></tr><tr><td>CPA-09</td><td>176</td></tr><tr><td colspan="2">Not applicable to CPA 02, 03, and 10 as they fall to Case 1 projects.</td></tr></table> However, to enhance the accuracy, completeness and conservativeness of the monitoring program, Evidence Action performed a population cross check (PCC) survey in 2020 and voluntarily updated the POP_P for all the related CPAs. During the survey, the number of households using the dispensers for drinking water purification was identified. The verification team has checked the PCC records and the Uganda National Household Survey 2016/17, and confirmed the updated values of POP_y are accurate and conservative.
Findings	No CARs/CLs/FARs raised in this section.
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan.

Parameter 9: Parameters to be monitored for the calculation of project emissions from fossil fuel combustion as per the tool

Relevant SDG Indicator 13.2.1: Amount of GHGs emissions avoided or sequestered

Means of verification	In accordance with the applied methodology, CO_2 emissions from on-site consumption of fossil fuels due to the project activity shall be calculated as the project emissions using the latest version of the "Tool to calculate project or leakage CO2 emissions from fossil fuel combustion". The assessment team has physically checked the dispensers during the on-site visit and confirmed that the chlorine dispensers are operated manually and there is no consumption of fossil fuel and/or electricity for the operation of the water purification systems. The verification team has also reviewed the first verification report for the assessment of GHG emissions from chlorine transportation and confirmed that emission source can be ignored for it's not addressed in the applied methodology and the contribution is 0.25%, less than 1% of the overall average annual emissions reductions according to the Para.311 of VVS-PoA Version 03.0 /36/. Moreover, the ignored 0.25% contribution to the emission reductions is far less than the materiality threshold 5%.
Findings	No CARs/CLs/FARs raised in this section.
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.

Parameter 10: Parameters to be monitored for the calculation of project emissions from electricity consumption as per the tool

Relevant SDG Indicator 13.2.1: Amount of GHGs emissions avoided or sequestered

Means of verification	In accordance with the applied methodology, CO_2 emissions from electricity consumption by the project activity shall be calculated as the project emissions using the latest version of the "Tool to calculate baseline, project and/or leakage emissions. The assessment team has physically checked the dispensers during the on-site visit and confirmed that the chlorine dispensers are operated manually and there is no consumption of electricity for the operation of the water purification systems.
Findings	No CARs/CLs/FARs raised in this section.
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.

Parameter 11: Number of full time and part time jobs created by the CPA project activities.

Relevant SDG Indicator 8.5.2: Unemployment rate, by sex, age and persons with disabilities

Means of verification	This is a sustainable development parameter to monitor the total number of employment opportunities created and the expenses incurred in operation and maintenance. This parameter is monitored on annual basis. The CME has recruited 32 persons for project management, is a direct effect of the project. The employment records were verified /12/. Therefore, the project results in sustainable job creation. Employment records towards employed people were checked for the monitoring period to cross check the employment details/12/.
Findings	CAR #2 was raised and resolved.
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.

Implementation of sampling plan:

Means of verification	The assessment team reviewed the sampling plan in the approved revised PoA-DD and included CPA-DDs, reviewed the actual sampling efforts carried out, interviews with personnel involved in sampling and surveys, and physically visited the subset of households that were included in the CME/PP's sample survey, and assessed the compliance of the sampling efforts and surveys with the validated sampling plan in accordance with the "Standard for sampling and surveys for CDM project activities and programme of activities" Version 09.0. The monitoring has been carried out in accordance with the monitoring plan contained in the CPA-DDs /09/. **Sampling Design/Method/Target Population/Sampling Frame/Reliability**: The sampling method applied for parameter Drink% (clustered sampling), Refill% (simple random), and clustered sampling was used for parameter of

water quality monitoring, which is in line with the monitoring plan of the PoA DD (Section B.7.2) as referred in CPA-DDs /09/.
The parameters were monitored by grouped survey for the CPAs, which is verified to be in line with criteria of same technology and host-country in the approved revised PoA-DD and CPA-DDs.
The sampling frame considered confidence/precision as 95/10 to meet the requirement of Standard for sampling and surveys for CDM project activities and PoAs /41/. The target population was the households served by the chlorine dispensers installed as part of the CPAs located in Uganda. Each dispenser had the equal chance of selection.
Sample Size (Required and Actual) for Parameter of Interest:
The sampling is applied to the following monitoring parameters:

(1) Refill%
(2) Drink%
(3) Water Quality

The sample sizes were determined, separately for each of them as under. The outcome of sample size calculation (required and actual samples) based on the considered confidence level and precision is presented below:

Parameters	Sampling Approach	Required Sample Size	Actual Sample Size	Results	Precision Achieved
Refill%	Simple Random sampling	21	467	99.78%	0.4%
Drink%	Clustered sampling	12 dispensers	15 dispensers (543 samples among 543 households, 2020)	98.80%	0.5%
Water Quality				95.19%	2.7%

In this regard, sample size calculation (required and actual) is included in the ER spreadsheet /4/. The verification team checked and found the parameters inputted (eg. Required confidence/precision, Total number of groups in the population or Number of chlorine dispensers, expected unit variance, expected overall proportion) were consistent with the CPA-DDs and corresponding calculation were correct as per registered monitoring plan.
The assessment team reviewed the sample size determination and Reliability Calculation of the surveys and reproduced the same result as per the Standard: Sampling and surveys for CDM project activities and programme of activities /41/, Guideline: Sampling and surveys for CDM project activities and programme of activities /42/, and Sample Size Calculator /43/.
The actual number of dispensers covered by the CME' sample were clearly larger than the minimum size required. The precision achieved for the confidence level 95% is within the limit (<10%) for all the parameter of interest.
For the sampling of parameter "Water quality" and "Drink%", cluster sampling has been applied, and 15 clusters/dispensers have been randomly selected. Within the selected dispensers, all the households have been surveyed.
The assessment team reviewed the documents for WQT and Drink% survey against the PCC records, and interviewed the users during on-site visit, against the PCC records, and then confirmed that the records were consistent, and all the households around the dispensers have been surveyed.

	The assessment team can conclude that the sampling approach complied with requirement of the Sampling and surveys for CDM project activities and programmes of activities guideline. The randomization was undertaken in Microsoft-Excel, and the same has been verified by the verification team. The samples were drawn from the database. Hence the verification team was able to confirm that the samples were representative of the total population. The reliability (demonstration of precision achieved after the survey results) is depicted in the ER spreadsheet /04/ corresponding to final Monitoring Report /02/, which were also found correct. Based on the verified results the assessment team found that the required precision was met in all the cases and therefore the results were directly used in the calculation of ERs. The assessment team has checked different version of PoA-DDs (registered version 06 and revised version 07) and found there is no change for the sample plan, i.e. the sampling approach are the same in different versions of the PoA-DDs. The verification team has ensured that a statistically sound sample of CPAs from each version of the PoA is being verified.
Findings	CAR #1 was raised and resolved.
Conclusion	The assessment team confirms that: i. The sampling and surveys were carried out in line with the sampling plan and monitoring plan in the registered PoA-DD and CPA-DDs. ii. The sampling approach and sample size determination was consistent with the sampling plan, and the sampling and surveys were carried out in accordance with the requirements of the 'Standard: Sampling and surveys for CDM project activities and programme of activities' and the 'Guideline: Sampling and surveys for CDM project activities and programme of activities. iii. A statistically sound sample of CPAs from each version of the PoA is being verified.

3.6 Compliance with the calibration frequency requirements for measuring instruments:

Means of verification	The verification team has determined that no monitoring equipment has been used by the CME that requires calibration. Furthermore, there was no requirement of calibration in the monitoring plan as outlined under respective CPA-DDs. This was in accordance with the accepted monitoring plan and the applied monitoring methodology. However, the CMEs spot-check for dispenser's functionality can be regarded as self-calibration. During on-site inspection, the assessment team has checked and confirmed whether the dispensers' valves can dose 3ml chlorine solution properly in one turn. For the CPAs, the unit of MPN (most probable number) is almost the same as CFU (colony forming unit) as per the instruction of IDEXX /29/ and ISO9308-2 /51/.
Findings	No CARs/CLs/FARs raised in this section.

Conclusion	There is no specific requirement prescribed in the registered monitoring plan and applied methodology.

3.7 Implementation of grievance mechanism:

The assessment team interviewed local stakeholders during the on-site audit and confirmed that local stakeholders were satisfied about the project and do not have any negative comments. The users are of the positive opinion on the positive effects such as air quality, additional saving of wood due to the project activity. During the on-site inspection, the verification team found the boxes for written comments were kept in the Evidence Action country and field offices. The telephone and email access to the project owner and GS expert were made available by the project owner which could enable the stakeholders to provide feedback on the project. The verification team confirmed that the PPs maintained a transparent communication channel with local stakeholders throughout the monitoring period and no comments have been made through the Continuous input & grievance mechanisms. There is no formal complaint received during the current monitoring period.

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

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

3.8 Assessment of Data and Calculation of Greenhouse Gas Emission Reductions

3.8.1 Calculation of baseline value or estimation of baseline situation of each SDG outcome

Means of verification	**SDG 6 impacts:** *Number of people who have clean water access.* There was no distribution of project technology, that was reported since people may not be able to access to safe drinking water in the baseline. The baseline value for this parameter is given as 0. The assessment team has found that baseline estimate of this SDG appropriate and accepted**.** **SDG 8 impacts**: *Number of full time and part time jobs provided by the project activities.* In the baseline, no people were employed by the project. The baseline value for this parameter is given as 0. The project activity was projected to employ about 32 during its implementation. Verification team has found that baseline estimate of this SDG appropriate and accepted. **SDG 13 impacts:** Total project emission reductions

The assessment team has checked whether calculations of baseline GHG emissions have been carried out in accordance with the formulae and methods described in the registered monitoring plan.

The following equations were used to determine the baseline emissions as provided in the monitoring report /02/ and applied in the corresponding ER sheet /4/. The expressions used were found consistent with the approved revised PoA DD /7/, included CPA-DDs /09/ and the applied methodology AMS-III.AV. Version 03 /39/:

$$BE_y = QPW_y * SEC * f_{NRB,y} * EF_{projected\_fossilfuel} * 10^{-9} * \text{Correction Factor water quality}$$

Where,

BEy	Baseline emissions during the year *y* (tCO_2e)
QPW_y	Quantity of purified water in year *y*
SEC	Specific energy consumption required to boil one litre of water
$f_{NRB, y}$	Fraction of non-renewable biomass 82% (default value for Uganda, fixed in the crediting period)
$EF_{projected\_fossilfuel}$	Emission factor 81.6 tCO_2/TJ (default value)
Correction Factor water quality	Water quality

The specific energy consumption required to boil one litre of water was calculated as follows:

$$SEC = \left[WH * (T_f - T_i) + 0.01 * WHE \right] / n_{wb}$$

Where: -

WH	Specific heat of water,4.186 kJ/L °C (default value)
T_f	Final temperature,100 °C (default value)
T_i	Initial temperature of water,20 °C (default value)
WHE	Latent heat of water evaporation, 2,260 kJ/L (default value)
η_{wb}	Efficiency of the water boiling systems being replaced, source from baseline survey

The water quality was monitored on sample basis for contamination with Escherichia coli (E. coli). A presence of up to 10 E. coli CFU/100 ml shall be acceptable. The fraction of water quality measurements providing water of insufficient quality needs be excluded from the calculation of emission reductions and BEy was adjusted accordingly.
PP has submitted the calculation in the excel sheet /04/. The baseline calculation in the excel sheet is checked whether the calculation is in accordance with the formula given in the CPA-DDs /09/ and found correct.

Findings	No CARs/CLs/FARs raised in this section.
Conclusion	The assessments team confirms that: • The calculations of baseline SDG impact have been carried out in accordance with the equations and methods described in the registered monitoring plan and applied methodology.

	• Any assumptions used in emission or removal calculations have been justified. • Appropriate emission factor and other reference values have been correctly applied. It can be confirmed that the baseline calculation is overall correct. • The ER calculation sheet provided is clear, transparent and the calculations provided in the sheet are reproducible. • The baseline emission in the monitoring report for the monitoring period is verified as 178,589 tCO2e to be correct.

3.8.2. Calculation of project value or estimation of project situation of each SDG Impact

Means of verification

SDG 6 impacts: *Number of people who have clean water access.*

There is total 3,872 dispensers considered to be functional during the monitoring period. The average people with access to a dispenser is 190.Thus, the number of persons supplied with purified water from each of the functional dispensers is 723,410.

CPA	Number of functional dispensers (N_y)	Average number of people with access to a dispenser (POP_y)	Number of people who have access to clean water (N_y x POP_y)
CPA-02	1,089	199	216,711
CPA-03	966	157	151,662
CPA-09	1,152	176	202,752
CPA-10	665	229	152,285
Total	3,872	-	723,410

SDG 8 impacts: *Number of full time and part time jobs provided by the project activities.*

The project activity creates 32 full time/part time jobs during the monitoring period. The verification team has cross checked the staff lists with part of the employment records/12/ and confirmed that 32 jobs were offered by Evidence Action in Uganda in 2020 with different titles and departments.

SDG 13 impacts: Total project emission reductions

The operation of the chlorine dispensers does not involve the consumption of fossil fuels or electricity. Therefore, the project emissions are zero.

Findings	CAR #2 was raised and resolved.
Conclusion	The assessments team confirms that: • The calculations of baseline SDG impact have been carried out in accordance with the equations and methods described in the registered monitoring plan and applied methodology. • Any assumptions used in emission or removal calculations have been justified.

	• Appropriate emission factor and other reference values have been correctly applied. It can be confirmed that the baseline calculation is overall correct. • The ER calculation sheet provided is clear, transparent and the calculations provided in the sheet are reproducible. • The project emission in the monitoring report for the monitoring period is verified as zero to be correct.

3.8.3. Calculation of leakage GHG emissions

Means of verification

The CPA-DDs /09/ and applied monitoring methodologies do not prescribe any leakage emissions to be considered. The onsite visit and project design also did not reveal any potential source to be considered in this regard. However, the leakage adjustment factor that is required to adjust the baseline emissions has been duly accounted for in baseline calculations.
BEy is multiplied by a net to gross adjustment factor of 0.95 to account for leakages, in which case surveys are not required. Therefore, the leakage is calculated as follows:
Leakage = (BEy, adjusted) * (1 - % Leak)

CPA#	Leakage (LE)	Value
CPA-02	54,115 tCO2e * (1-0.95)	2,706 tCO_2e
CPA-03	40,508 tCO2e * (1-0.95)	2,026 tCO_2e
CPA-09	45,019 tCO2e * (1-0.95)	2,251 tCO_2e
CPA-10	38,947 tCO2e * (1-0.95)	1,948 tCO_2e

The assessment team has checked leakage in the updated monitoring report which was consistent with updated ER calculation spreadsheet. The complete calculation of leakage has been included in the updated monitoring report.

Findings

No CARs/CLs/FARs raised in this section.

Conclusion

In line with the requirements of the paragraph 360 of VVS-PoA Version 03.0, the assessment team confirms that:

(a) A complete set of data for the monitoring period is available,

(b) Information on the baseline GHG emission calculation provided in the monitoring report has been cross-checked with other sources,

(c) Calculations of baseline emissions have been carried out in accordance with the formulae and methods described in the monitoring plan and the applied methodology document.

3.8.4. Summary of Calculation of net benefits or direct calculation of each SDG Impact

Means of verification	The CME has submitted the calculation in the excel sheet /04/. The calculation for each SDG impact is checked whether the calculation is in accordance with the formula given in the registered CPA-DD /09/ and the selected methodology /39/.

	<table><tr><th>SDG</th><th>SDG Impact</th><th>Baseline estimate</th><th>Project estimate</th><th>Net benefit</th></tr><tr><td>13</td><td>Amount of GHGs emissions avoided or sequestered (tCO2e)</td><td>178,589</td><td>8931</td><td>169,658</td></tr><tr><td>6</td><td>Number of people who have clean water access</td><td>0</td><td>723,410</td><td>723,410</td></tr><tr><td>8</td><td>Number of full time and part time jobs provided by the project activities</td><td>0</td><td>32</td><td>32</td></tr></table>
Findings	CAR #2 was raised and resolved.
Conclusion	The verification team confirms that: • The summary table in the MR has been filled correctly and the values are in line with the related emissions reduction spreadsheet /04/. • Each SDG impact is calculated as per the registered CPA-DDs /09/ and the selected methodology /39/.

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

Means of verification	The assessment team has checked whether the MR includes a comparison of actual values of SDG Impacts of the monitoring period with the estimations in the registered CPA-DDs /06/. Section E.5 of the MR includes a comparison of the calculated SDG Impacts with the ex-ante calculated values in the registered CPA-DDs /06/. <table><tr><th>SDG</th><th>Values estimated in ex ante calculation of approved PDD for this monitoring period</th><th>Actual values achieved during this monitoring period</th></tr><tr><td>13</td><td>220,296 tCO_2</td><td>169,658 tCO_2</td></tr><tr><td>6</td><td>1,161,994 people</td><td>723,410</td></tr><tr><td>8</td><td>32 Jobs</td><td>32 Jobs</td></tr></table>The estimated SDG Impact and the actual SDG Impact achieved for the monitoring period are correctly reported in the section E.5 of MR /02/.
Findings	No issues identified and hence finding was not raised for this section
Conclusion	The actual achieved SDG Impacts is less than estimated SDG Impacts mentioned in the in the CPA-DDs. Accordingly, it was accepted by verification team. In accordance with the requirements of paragraph 270 of CDM Project Standard for PoA Version 03.0, the assessment team confirms that: A comparison of actual GHG emission reductions or net anthropogenic GHG removal of the project activity achieved during this monitoring period with the

	estimates in the included CPA-DDs has been provided, and the results are correct.

3.8.6. Remarks on difference from estimated value in registered PDD

Means of verification	The verification team has determined the SDG Impacts achieved during this monitoring period with the estimated value and reason for increase if any.
Findings	No finding was raised
Conclusion	The actual GHG emission reductions achieved during the current monitoring period is lower than that stated in the registered CPA-PDD and the approved transition document. The differences of SDG6 are deemed to be reasonable. Hence this is accepted to the verification team.

3.9 Management and Operational System

During the on-site visit the assessment team interviewed the CME representative and monitoring team and confirmed that the CME has organized an appropriate management and operational system for implementation, monitoring and reporting functions.

The CME appointed a PoA Manager who is supported by CPA Manager in the host Party (Uganda). The host Party CPA manager overlooks the representatives from CPA implementers.

The assessment team that physically verified that the Evidence Action, which acts as CPA implementer, is managing the implementation of water purifiers (chlorine dispensers), operating, monitoring (field surveys, physical check, and spot checks), and maintaining.

The verification team reviewed relevant documents, which were kept in order by Evidence Action viz., Installation Records /25/, Carbon Rights Waiver Records /24/, ODK Raw Records /16/, Survey Records /17/, Community Meeting Records /26/, and Chlorine Delivery and Stock Records /20/ among others. CME was also found to have access to all the records mentioned above, maintained by CPA implementers. The actual records are retained by Evidence Action and provided to CME.The CPA implementer has appointed community members who volunteered for each dispenser as "promoter", who encourages use of the dispenser, reports any problems, and refills the dispenser with chlorine.

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

The organizational structure and roles and responsibilities for monitoring are in line with the situation as observed during the on-site inspection, and the structure is considered appropriate.

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

4. REFERENCE

LIST OF DOCUMENTS		
S. No.	**Document/Evidence**	**Reference/Web link, Version, Date**
1	Monitoring Report	Version 01, 03/02/2023
2	Monitoring Report	Version 02, 08/06/2023
3	ER Spreadsheet	Version 01, 03/02/2023
4	Revised ER Spreadsheet	Version 02, 08/06/2023
5	Registered CDM PoA-DD	Version 6,02/10/2012
6	Validation Report (Registered PoA DD)	Rev. 12,16/11/2012
7	Approved transition annex PoA-DD (GS 2.2 to GS4GG)	-
8	PRC Validation Opinion for the PoA	Rev1.1 Aa,16/07/2015
9	Registered CPA DD – CPA 02 (GS ID2735)	Version 06.1 ,19/03/2019
	Registered CPA DD – CPA 03 (GS ID 3668)	Version 06.1 ,19/03/2019
	Registered CPA DD – CPA 09 (GS ID5051)	Version 03, 15/12/2020
	Registered CPA DD – CPA 10 (GS ID5052)	Version 03, 15/12/2020
10	Approved transition annex – CPA 02	(GS V 2.2 to GS4GG)
	Approved transition annex – CPA 03	(GS V 2.2 to GS4GG)
	Approved transition annex – CPA 09	(GS V 2.2 to GS4GG)
	Approved transition annex – CPA 10	(GS V 2.2 to GS4GG)
11	Verification report previous monitoring period	-
12	Employment and training records	-
13	Key Project Information & monitoring report (MR), template	Version 1.1
14	Gold standard for the global goals, community services activities requirements	Version 1.2
15	Gold Standard for the Global Goals Principles & Requirements	Version 1.2
16	ODK Raw Records/Spreadsheet	-
17	Survey Records (ODK based) / Spot Checks	-
18	Promoter Survey Records (ODK based)	-
19	Monitoring Survey Records	-
20	Chlorine Delivery and Stock Records	-
21	Chlorine Purchase receipts	-
22	Chlorine Inventory	-
23	WQT Records	-
24	Carbon Rights Waiver Records	-
25	Dispenser Installation Records	-
26	Community Education Meeting Attendance Records	-
27	Protocol for Processing Samples using IDEXX Quanti – Tray / 2000 (Water Quality Tests)	-
28	IDEXX Water Quality Testing Form (Water Quality Tests)	-
29	Quanti-Tray System User Manual (www.idexx.com/water/products/quanti-tray.html)	-

30	Technical Specifications of the dispenser and its hardware	-
31	Chlorine Usage Data and Calculation	-
32	Baseline Survey Records	-
33	Interview: Existence of public distribution network supplying safe drinking water	2020
34	Default values of fraction of non-renewable biomass http://cdm.unfccc.int/DNA/fNRB/index.html	-
35	Stakeholder consultation and engagement requirements	V1.2
36	CDM PS-PoA Version 03.0	09/09/2021
37	CDM VVS-PoA Version 03.0	09/09/2021
38	CDM PCP-PoA Version 03.0	09/09/2021
39	AMS-III.AV Low greenhouse gas emitting safe drinking water production systems	Version 03,13/09/2012
40	AMS-I.E. Switch from Non-Renewable biomass for thermal applications by the user	Version 05,20/07/2012
41	Standard: Sampling and surveys for CDM project activities and programme of activities	Version 09.0,27/05/2021
42	Guideline: Sampling and surveys for CDM project activities and programme of activities	Version 04.0,16/10/2015
43	Sample Size Calculator (Appendix 6 of Guidelines for sampling and surveys for CDM project activities and programme of activities)	Version 03.1,16/10/2015
44	General guidelines for SSC CDM methodologies	Version 23.1,11/02/2021
45	Methodological tool: Demonstration of additionality of small-scale project activities	Version 13.1,01/09/2020
46	Methodological tool: Assessment of debundling for small-scale project activities	Version 04.0,16/04/2015
47	Instructions for filling out the monitoring report form for CDM programme of activities in the Monitoring report form for CDM programme of activities	Version 05.0,08/10/2021
48	WQT Result DOE samples	-
49	Colilert-18 http://www.idexx.com.cn/water/products/colilert-18.html	-
50	Population Crosscheck (PCC)	-
51	ISO 9308-2 water quality — enumeration of Escherichia coli and coliform bacteria — part 2: most probable number method	http://www.doc88.com/p-7334058305760.html

5. FINAL VERIFICATION STATEMENT

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

In our opinion the GHG emissions reductions reported for the project activity are fairly stated in the Monitoring Report (final) Version 02 dated 08/06/2023.Applus+ Certification, based on

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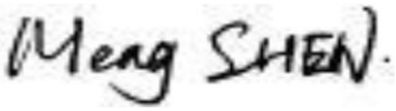
outcome of verification activities, certifies in writing that, during the monitoring period 01/01/2020 – 31/12/2020(including both days), the registered GS PoA "GS2404 International Water Purification Programme" achieved the verified amount of GS CERs 169,658 tCO2e.

The verified amount of SDG Impacts is stated below under the current monitoring.

SDG	Unit	Net benefit
13	tCO_2	169,658
6	Number of people who have clean water access	723,410
8	Number of full time and part time jobs provided by the project activities	32

Date: 14/07/2023
Lead Auditor: Ravi Kant Soni
Tech. Expert: Ravi Kant Soni
Tech. Reviewer: Simon Shen

Approver *(Applus+ Certification Business Unit Managing Director)*
Mr. Agustín Calle de Miguel

ASSESSMENT TEAM	
Team Leader Ravi Kant Soni	**Technical Reviewer:** Simon Shen
Signature: 	Signature: 
Approver: Mr. Agustín Calle de Miguel	
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Appendix 1: Corrective Action Request/Clarification Request/Forward Action Request resolution table

Type:	☐ CAR ☒ CL/CR ☐ FAR	Number:	01
Raised by:		Ref. to checklist in above tables:	2.2
Description of the audit finding		Date:	20/02/2023
(i) Please clarify why the date of submission for annual report is not mentioned at p.1 of the MR. (ii) Please clarify why 2 separate dates for registration of project under GS are mentioned in the MR (P.1). (iii) Value of the parameter relevant to SDG8 as mentioned under table -1 of the MR is not consistent with the approved TRF. (iv) Please mention the refence of CPAs as per the approved TRF for all CPAs.			
Project Participant's response		Date:	08/06/2022
As per the GS4GG Principles and Requirements, Annual report is the requirement for "projects that have achieved the Project Design Certification stage or have successfully transitioned to Gold Standard for the Global Goals. An annual report shall be submitted for each monitoring year by the end of next calendar year for which verification is not completed. If a verification is in progress but not completed, then an Annual Report is still required by the end of calendar year.". The projects (CPA 2, 3, 9 and 10) are CDM GS projects, and the transition to GS4GG of the projects have just been approved by GS on 19 May 2023. No annual report has been required before. Now a verification is in progress but not completed, so the annual report would be required by the end of calendar year. Therefore, on page 1 of the MR here for the "Date of Last Annual Report", it's not applicable. On page 1 of the MR for "Date of project design certification", two dates for CPA 2 and 3 were provided previously. The dates of project design certification for CPA 9 and 10 have been added. The value of the parameter relevant to SDG8 in table 1 of the MR has been revised to be consistent with the value in the approved Transition Annex. Now it is updated and the reference of values in approved transition annex is mentioned.			
Documentation provided as evidence by Project Participant			
Revised MR v 02 Revised ER sheet			
Auditor's assessment comment		Date:	15/06/2023

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It is noted that the CPAs (CPA 2, 3, 9 and 10) to be verified are CDM-GS CPAs initially registered under GS V 2.2 and the transition from GS 2.2 to GS4GG of the CPAs have been approved on 19 May 2023. Since the verification is in progress but not completed, the annual report would be required by the end of calendar year, hence annual report is not applicable. Closed The CME has indicated the date of GS registration for CPAs (CPA 2, 3, 9 and 10) on p.1 of the, found to be correct, hence accepted. Closed The value of the parameter relevant to SDG8 in table 1 of the revised MR is corrected and found to be consistent with the value in the approved Transition Annex. Closed The CME has mentioned the refence of CPAs in the MR as per the approved TRF for all CPAs. Therefore CL #1 is closed.

Type:	☒ CAR	☐ CL/CR	☐ FAR	Number: 01
Raised by:				Ref. to checklist in above tables: 2.4
Description of the audit finding				Date: 20/02/2023
It is not clear how the monitoring parameters WQ, Refill% and Drink% are determined. The CME is requested to provide the relevant evidence along with the reliability/precision calculation sheet. Please clarify why the SDGs claimed in the monitoring period are not reported in the ER calculation sheet.				
Project Participant's response				Date: 08/06/2023
The relevant evidence had been provided during the CDM cycle. Now they are provided again. ER calculation sheet now has been updated and SDGs claimed in the monitoring period are now reported.				
Documentation provided as evidence by Project Participant				
Revised MR v 02 Revised ER sheet				
Auditor's assessment comment				Date: 15/06/2023
The CME has described the calculation for the monitoring parameters WQ, Refill% and Drink% in the revised MR and along with the reliability/precision calculation sheet, found to be satisfactory. Closed The CME has reported the values of SDGs impacts in the revised ER calculation sheet, found to be appropriate. Closed Therefore CAR #1 is closed.				
Type:	☒ CAR	☐ CL/CR	☐ FAR	Number: 02

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Raised by:		Ref. to checklist in above tables:	3.4
Description of the audit finding		Date:	20/06/2023
Section E.2 MR: It is not clear whether 50 or 150 jobs created dure to the project activity. Kindly submit the relevant employment records. Section E.4 MR: Baseline estimate for SDG 13 is not reported correctly. Also, as per the MR filling guidelines project estimate should account for leakage, please clarify why the leakages are not considered for project estimate (SDG 13). Please clarify why the ex-ante estimated values for SDG 6 and SDG 8 is not reported under section E.5 of the MR. Section D.3 MR: Comparison of SDGs parameters is not provided as per the MR template guidelines. Values of the SDG6 & SDG 8 obtained during previous monitoring period are not reported.			
Project Participant's response		Date:	08/06/2023
The employment record has been provided. 49 jobs have created for all the 6 CPAs in Uganda, while for those 4 CPAs, 32 have been created. The details on ERs calculation including baseline estimation, project estimation and leakage are provided in E.1 to E.3. While For E.4 SDG 13, it is for the result of emission reductions, therefore a final number is added there. The ex-ante estimated values for SDG 6 and 8 have been added in E.5 of the MR. The transition to GS4GG was approved on 19 May 2023 only and in the last monitoring period, SDGs were not in the monitoring plan yet and it was not required to monitor, therefore for this monitoring period, no results for last monitoring period are available.			
Documentation provided as evidence by Project Participant			
Revised MR ER calculation sheet			
Auditor's assessment comment		Date:	15/06/2022
The CME has updated the actual number of jobs created due to CPAs (CPA 2, 3, 9 and 10) in the revised MR and found to be consistent with the approved TRF & the employment records verified during the site visit. Closed The CME has updated Section E.4 MR including the corrected value of SDG 13, found to be satisfactory. Closed The ex-ante estimated values for SDG 6 and 8 have been added in E.5 of the revised MR and found to be consistent with ER sheet. Closed Since the monitoring parameters relevant to SDG6 & SDG 8 were not part of previous verification, hence not reported. The clarification provided is found to be satisfactory, hence accepted. CAR #2 is closed.			

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Appendix 2: Audit Team CVs

Name	SHORT CV. BACKGROUND INFORMATION
Ravi Kant Soni	Ravi Kant Soni is a certified lead auditor for Lead Auditor ISO 14001:2004&Lead Auditor ISO 14064:2006 GHG Inventory and verification. He has more than 10 years of work experience across Climate Change, Environmental Management & Monitoring, Health & Safety Managemen, and Statutory Compliance. He was involved in more than 100 CDM validation and verifications activities and Gold Standard, VER projects as a team leader/technical reviewer / validator / verifier covering the sectoral scope 1 technical area 1.2. ,3.1He has done Mater in Technology (Energy Management) from a premier institute, School of Energy & Environmental Studies, DAVV, Indore (M.P.), India and Bachelor of Engineering (Mechanical Engineering) from M.I.T.S Gwalior Jiwaji University Gwalior, India.
Simon Shen	Simon Shen (Master's Degree in Thermal Energy Engineering, Bachelor's Degree in Environmental Engineering) is an Auditor appointed by Applus+ LGAI for the GHG project assessment, auditing and technical review. He has more than 6 years of work experience in CDM/GS4GG/VCS project assessment and review with Applus+, apart from the years of experience working as GHG Auditor and ISO 9001/14001 in TUV SUD before he joined Applus+ for 3.5 years. Mr. Simon Shen has extensive experience also as former Applus+ Shanghai CDM Technical Manager.