



**Verification and certification report form for
CDM programme of activities
(Version 04.0)**

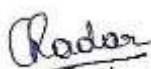
BASIC INFORMATION

Title and GS ID of the programme	Title: Safe Water Programme in Africa and Asia GS Ref. No. GS10959																							
Version of PoA-DD(s) to which this report applies	05																							
Title and GS ID (s) of the project (s) covered by monitoring report	<table border="1"> <thead> <tr> <th>GS ID</th><th>Titles</th></tr> </thead> <tbody> <tr> <td>GS 11098</td><td>GS10959 VPA01 Safe Water Project in Rwanda I</td></tr> <tr> <td>GS 11133</td><td>GS10959 VPA02 Safe Water Project in Rwanda II</td></tr> <tr> <td>GS 11134</td><td>GS10959 VPA03 Safe Water Project in Rwanda III</td></tr> <tr> <td>GS 11135</td><td>GS10959 VPA04 Safe Water Project in Rwanda IV</td></tr> <tr> <td>GS 11136</td><td>GS10959 VPA05 Safe Water Project in Rwanda V</td></tr> <tr> <td>GS 11137</td><td>GS10959 VPA06 Safe Water Project in Rwanda VI</td></tr> </tbody> </table>			GS ID	Titles	GS 11098	GS10959 VPA01 Safe Water Project in Rwanda I	GS 11133	GS10959 VPA02 Safe Water Project in Rwanda II	GS 11134	GS10959 VPA03 Safe Water Project in Rwanda III	GS 11135	GS10959 VPA04 Safe Water Project in Rwanda IV	GS 11136	GS10959 VPA05 Safe Water Project in Rwanda V	GS 11137	GS10959 VPA06 Safe Water Project in Rwanda VI							
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GS 11137	GS10959 VPA06 Safe Water Project in Rwanda VI																							
Version number of the PDD/VPA-DD (s) applicable to this monitoring report	08																							
GS Version applicable	GS4GG																							
Version number of the verification and certification report	2																							
Completion date of the verification and certification report	23/02/2026																							
Monitoring period number and duration of this monitoring period	Monitoring Period: 4 th <table border="1"> <thead> <tr> <th>VPA No.</th><th>Start date</th><th>End date</th></tr> </thead> <tbody> <tr> <td>VPA01</td><td>25/07/2024</td><td>31/12/2025</td></tr> <tr> <td>VPA02</td><td>25/07/2024</td><td>31/12/2025</td></tr> <tr> <td>VPA03</td><td>25/07/2024</td><td>31/12/2025</td></tr> <tr> <td>VPA04</td><td>25/07/2024</td><td>31/12/2025</td></tr> <tr> <td>VPA05</td><td>25/07/2024</td><td>31/12/2025</td></tr> <tr> <td>VPA06</td><td>25/07/2024</td><td>31/12/2025</td></tr> </tbody> </table>			VPA No.	Start date	End date	VPA01	25/07/2024	31/12/2025	VPA02	25/07/2024	31/12/2025	VPA03	25/07/2024	31/12/2025	VPA04	25/07/2024	31/12/2025	VPA05	25/07/2024	31/12/2025	VPA06	25/07/2024	31/12/2025
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VPA05	25/07/2024	31/12/2025																						
VPA06	25/07/2024	31/12/2025																						

Version number and Completion date of the GS monitoring report to which this report applies	Version 02, dated 10/02/2026		
Project Representative/CME	Ji BAO /Guangzhou Iceberg Environmental Consulting Services Co., Ltd.		
Host Parties	Rwanda		
Applied methodologies and standardized baselines	Technologies and Practices to Displace Decentralized Thermal Energy Consumption" version 3.1		
Mandatory sectoral scopes	Sector 3/Technical Area 3.1		
Conditional sectoral scopes, if applicable	N/A		
Estimated amount of SDG impact for this monitoring period in the included VPAs covered in this report	SDG	GS ID	Values estimated in ex ante
	13	GS 11098	84,115 tCO ₂ e
		GS 11133	84,115 tCO ₂ e
		GS 11134	84,115 tCO ₂ e
		GS 11135	84,115 tCO ₂ e
		GS 11136	84,115 tCO ₂ e
		GS 11137	84,115 tCO ₂ e
	3	GS 11098	18.45%
		GS 11133	18.45%
		GS 11134	18.45%
		GS 11135	18.45%
		GS 11136	18.45%
		GS 11137	18.45%
	5	GS 11098	44.44%
		GS 11133	44.44%
		GS 11134	44.44%
		GS 11135	44.44%
		GS 11136	44.44%
		GS 11137	44.44%

	6	GS 11098	32,726 persons
		GS 11133	32,726 persons
		GS 11134	32,726 persons
		GS 11135	32,726 persons
		GS 11136	32,726 persons
		GS 11137	32,726 persons
Total amount of certified SDG impact for this monitoring period for the included VPAs covered in this report	SDG	GS ID	Values estimated in ex post
	13	GS 11098	85,162 tCO ₂ e
		GS 11133	78,816 tCO ₂ e
		GS 11134	80,408 tCO ₂ e
		GS 11135	86,391 tCO ₂ e
		GS 11136	84,205 tCO ₂ e
		GS 11137	81,375 tCO ₂ e
	3	GS 11098	38.45% / 38.45% ¹
		GS 11133	38.45% / 38.45%
		GS 11134	38.45% / 38.45%
		GS 11135	38.45% / 38.45%
		GS 11136	38.45% / 38.45%
		GS 11137	38.45% / 38.45%
	5	GS 11098	63.33% / 75.56%
		GS 11133	63.33% / 75.56%
		GS 11134	63.33% / 75.56%
		GS 11135	63.33% / 75.56%
		GS 11136	63.33% / 75.56%
		GS 11137	63.33% / 75.56%

¹ Corresponding to two survey results applied during the monitoring period.

	6	GS 11098	34,101 / 34,611 persons
		GS 11133	31,852 / 32,533 persons
		GS 11134	32,595 / 33,012 persons
		GS 11135	34,490 / 34,805 persons
		GS 11136	34,067 / 34,330 persons
		GS 11137	32,510 / 33,252 persons
Name and UNFCCC reference number of the VVB		4K Earth Science Private Limited UNFCCC Ref No. CDM-E-0069	
Name, position and signature of the approver of the verification and certification report		 Chandrakala R. Managing Director	

SECTION A. Executive summary

>>4K Earth Science Private Limited (4KES) has performed the 4th performance review (verification) of the GS-VER VPAs vide the reference numbers GS 11098, GS 11133, GS 11134, GS 11135, GS 11136 & GS 11137. The verification includes confirming the implementation of the monitoring plan of the registered/most recent version of GS4GG PoA/VPA-DDs and the application of the applied monitoring methodology “Technologies and Practices to Displace Decentralized Thermal Energy Consumption” version 3.1/6/. A physical assessment was conducted to check the implementation of registered monitoring plan and verify the data submitted in the monitoring report. 4KES confirms the following has been reviewed.

- (a) The registered/most recent version of GS4GG VPA/PoA DD and the monitoring plan/2//14/ and the corresponding validation opinion.
- (b) The validation report/2/.
- (c) The applied monitoring methodology(ies)/6/.
- (d) The monitoring report to verify that it is as per the standardized format.
- (e) Monitoring results for the applied monitoring period
- (f) Any other information and references relevant to the project activity’s emission reductions (e.g. IPCC reports, data on electricity generation in the national grid or Laboratory analysis and national regulations);
- (g) VER calculations sheets and all supporting documents/3/.

4K Earth Science Private Limited (4KES) confirms that the monitoring system is in place, and the emission reductions are calculated without material misstatements.

Based on the information seen and evaluated, we confirm that the implementation of the project has resulted in following SDGs.

SDG	GS ID	Values Certified
13	GS 11098	85,162 tCO ₂ e
	GS 11133	78,816 tCO ₂ e
	GS 11134	80,408 tCO ₂ e
	GS 11135	86,391 tCO ₂ e
	GS 11136	84,205 tCO ₂ e
	GS 11137	81,375 tCO ₂ e
3	GS 11098	38.45% / 38.45% ²
	GS 11133	38.45% / 38.45%
	GS 11134	38.45% / 38.45%
	GS 11135	38.45% / 38.45%
	GS 11136	38.45% / 38.45%

² Corresponding to two survey results applied during the monitoring period.

	GS 11137	38.45% / 38.45%
5	GS 11098	63.33% / 75.56%
	GS 11133	63.33% / 75.56%
	GS 11134	63.33% / 75.56%
	GS 11135	63.33% / 75.56%
	GS 11136	63.33% / 75.56%
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6	GS 11098	34,101 / 34,611 persons
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	GS 11135	34,490 / 34,805 persons
	GS 11136	34,067 / 34,330 persons
	GS 11137	32,510 / 33,252 persons

Product Vintages Certified for SDG#13

VPA No.	Start Dates	End Dates	VERs (tCO ₂ e)
VPA01	25/07/2024	31/12/2024	25,461
	01/01/2025	31/12/2025	59,701
VPA02	25/07/2024	31/12/2024	23,520
	01/01/2025	31/12/2025	55,296
VPA03	25/07/2024	31/12/2024	24,062
	01/01/2025	31/12/2025	56,346
VPA04	25/07/2024	31/12/2024	25,873
	01/01/2025	31/12/2025	60,518
VPA05	25/07/2024	31/12/2024	25,133
	01/01/2025	31/12/2025	59,072
VPA06	25/07/2024	31/12/2024	24,274
	01/01/2025	31/12/2025	57,101
		Total	496,357

Methodology:

4KES follows a rule-based verification approach, wherein, as a first step, the contract review is undertaken as per latest version of CDM Accreditation Standard/ GS Principles & Requirements/4/.

A desk review of the project documentation is undertaken, which is followed by interviews by the members of verification team in accordance with the latest version of CDM AS/ GS Principles & Requirements/4/. The verification protocol is filled by the verification team that is based on standard auditing practices and GS validation & Verification Standard version 2/4/ in conjunction with version 03.0 of “CDM validation and verification standard for programmes of activities”/6/, to capture the assessment of applicable CDM and GS requirements viz., version 03.0 of “CDM project standard for programme of activities”, applicable GS4GG requirements, registered PoA-DD/14/ and VPA-DD/2/, applied methodology, applied standardized baseline and/or tools and recent decisions. The verification protocol provides transparent means to record the observations and compliances by the verification team members and the nonconformities, if any. The verification protocol is an internal document and is available on request.

After successful closure of findings (CARs/CLs), the draft verification report is prepared which went through Independent technical review as per 4KES internal procedures and the TR comments were given for any gaps in audit findings. After closure of the TR comments, final verification report is prepared then followed by final approval for the decision made. The approved verification report is given to PP which shall be submitted for request for issuance.

Following are the major milestones for the verification under consideration.

Verification contract	31/12/2025
Interviews/Onsite assessment	19/01/2026, 20/01/2026, 21/01/2026 & 22/01/2026
Draft Verification Report	19/02/2026
Final Verification Report	26/02/2026

4K Earth Science Private Limited confirms that the monitoring system is in place and the emission reductions are calculated without material misstatements.

SECTION B. Verification team, technical reviewer and approver**B.1. Verification team members**

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)	Involvement in			
						Desk/document review	Onsite inspection	Interview(s)	Validation findings
1.	Team Leader and Technical Expert (TA 3.1) (GS Approved Auditor)	El	Kandari	Sanjay	4KES - Central Office	✓	Remotely	✓	✓
2.	Local/Technical Expert	El	Jean Claude	Haguma	4KES - Central Office	✓	✓	✓	✓

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

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)
1.	Technical Reviewer (TA 1.1, 3.1)	IR	Puratchikkanal	Ma Paa	4KES - Central office
2.	Approver	IR	R	Chandrakala	4KES - Central office

SECTION C. Application of materiality in conducting the verification**C.1. Consideration of materiality in planning the verification**

No.	Risk that could lead to material errors, omissions or misstatements	Assessment of the risk		Response to the risk in the verification plan and/or sampling plan
		Risk level	Justification	
1.	Error in Data Transfer from Maintenance Logbook/survey forms to ER Spread sheet. The measurements (Water Quality Tests) are conducted in the accredited lab.	High	Possible human error during transfer of data to ER spreadsheets and MR	Verification Team checked all the records from maintenance logbooks and compared with ER spread sheet to check for any material error during data transfer.

C.2. Consideration of materiality in conducting the verification

>>

The prescribed thresholds for materiality, as per section 9.6 Application of materiality of 'GS Validation & Verification Standard, Version 1'.

Prescribed range of ERs/annum	500,000+	300,000+ to 500,000	300,000	SSC Pas	MSC PAs
Prescribed Threshold	0.5%	1.0%	2.0%	5.0%	10.0%

The identified/selected materiality threshold for the project activity under current monitoring period is 1% based on the ERs threshold.

	MR Version (Draft)	MR Version (Final)
Emission reductions/annum	496,357 t CO ₂ e	496,357 t CO ₂ e
Identified Threshold	1%	1%

SECTION D. Means of verification

D.1. Desk/document review

>> The verification is performed primarily as a desk review of the documents submitted at various stages of assessments. The review is performed by assessment team using verification protocols (checklists). The assessment team cross-checked the information provided in the MR/1/ and information from sources other than those used, if available, and conducts independent background investigations. 4KES conducted a desk review, involving but not limited to,

- A review of the data and information presented to verify their completeness.
- A review of the monitoring plan and monitoring methodology, paying particular attention to the frequency of measurements, water quality tests undertaken in third party accredited lab, and the quality assurance and quality control procedures.
- An evaluation of data management and the quality assurance and quality control system in the context of their influence on the generation and reporting of emission reductions.

The list of documents reviewed is included in the section 'Appendix 3' of this report.

D.2. On-site inspection

Duration of on-site inspection: 19/01/2026 to 22/01/2026				
No.	Activity performed	Site location	Date	Team member
1.	- General aspects of the project - Changes since validation / previous verification - Remaining issues from validation/ previous verification - Quality management system - Involved personnel and responsibilities - Training and practice of the operational personnel - Implementation of the monitoring plan - Monitoring data management - Data uncertainty and residual risks - Procedural aspects of the Monitoring - Maintenance - Data analysis - Issues in the MR - ER calculation	Various Locations under VPA covered in Rwanda	19/01/2026 to 22/01/2026	HAGUMA Jean Claude (Onsite) Sanjay Kandari (team leader joined remotely) Adequate training was provided to the local expert before the site visit to cover the issues during onsite audit in case of inadvertent network issues, notwithstanding the 'team leader' was also virtually available.

D.3. Interview

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S. No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Jin	Han	Guangzhou Iceberg Environmental Consulting Services Co., Ltd. (CME)	19/01/2026 to 22/01/2026	- General aspects of the project - Changes since validation / previous verification - Remaining issues from validation/ previous verification - Quality management system - Involved personnel and responsibilities - Training and practice of the operational personnel - Implementation of the monitoring plan - Monitoring data management	HAGUMA Jean Claude (On-site) / Sanjay Kandari (Remotely)

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					- Data uncertainty and residual risks - Procedural aspects of the Monitoring - Maintenance - Data analysis - Issues in the MR ER calculation	
2.	CHEUNG Ruddy	MAMY	Guangzhou Iceberg Environmental Consulting Services Co., Ltd. (CME)	19/01/2026 to 22/01/2026	Survey Methodology and Sampling	HAGUMA Jean Claude (On-site)/Sanjay Kandari (Remotely)
3.	BAZIRANKENDE	Mr. David	Guangzhou Iceberg Environmental Consulting Services Co., Ltd. (CME)	19/01/2026 to 22/01/2026	Survey Methodology and Sampling	HAGUMA Jean Claude (On-site)/Sanjay Kandari (Remotely)
4.	Anselme	MWIZERWA	Village Leader	19/01/2026	Grievance mechanism, double counting etc.	HAGUMA Jean Claude (On-site)/Sanjay Kandari (Remotely)

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5.	Vital	NGIRUWONSANGA	Village Leader	19/01/2026	Grievance mechanism, double counting etc.	HAGUMA Jean Claude (On-site)/Sanjay Kandari (Remotely)
6.	Theogene	DUSABIMANA	Borehole Maintenance Technician	20/01/2026	Grievance mechanism, double counting etc.	HAGUMA Jean Claude (On-site)/Sanjay Kandari (Remotely)
7.	Fabrice	NDAYISABA	Village Leader	21/01/2026	Grievance mechanism, double counting etc.	HAGUMA Jean Claude (On-site)/Sanjay Kandari (Remotely)
8.	Emmanuel	SHINGIRO	Village Leader	21/01/2026	Grievance mechanism, double counting etc.	HAGUMA Jean Claude (On-site)/Sanjay Kandari (Remotely)
9.	Edouard	MUVUNYI	Chair for Water Committee	121/01/2026	Grievance mechanism, double counting etc.	HAGUMA Jean Claude (On-site)/Sanjay

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						Kandari (Remotely)
10.	BIMENYIMANA	Viateur	IR197	19/1/2026	- Awareness about ownership of VERs - Working condition of borehole unit - SD parameters verification	HAGUMA Jean Claude (On-site)
11.	NDAYISABA	Jean De Dieu	IR197	19/1/2026	- Awareness about ownership of VERs - Working condition of borehole unit - SD parameters verification	HAGUMA Jean Claude (On-site)/Sanjay Kandari (Remotely)
12.	NYIRAMBAGARE	Philomene	IR197	19/1/2026	- Awareness about ownership of VERs - Working condition of borehole unit - SD parameters verification	HAGUMA Jean Claude (On-site)/Sanjay Kandari (Remotely)
13.	MUTWEWINGABO	Irene	IR197	19/1/2026	- Awareness about ownership of VERs	HAGUMA Jean Claude (On-

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					- Working condition of borehole unit - SD parameters verification	site)/Sanjay Kandari (Remotely)
14.	NDUWAYEZU	Valentine	IR197	19/1/2026	- Awareness about ownership of VERs - Working condition of borehole unit - SD parameters verification	HAGUMA Jean Claude (On-site)/Sanjay Kandari (Remotely)
15.	SHINGIRO	Vincent	IR157	19/1/2026	- Awareness about ownership of VERs - Working condition of borehole unit - SD parameters verification	HAGUMA Jean Claude
16.	RUTAYISIRE	Aime	IR157	19/1/2026	- Awareness about ownership of VERs - Working condition of borehole unit - SD parameters verification	HAGUMA Jean Claude (On-site)/Sanjay Kandari (Remotely)

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17.	HARERIMANA	Aphrodice	IR157	19/1/2026	- Awareness about ownership of VERs - Working condition of borehole unit - SD parameters verification	HAGUMA Jean Claude (On-site)/Sanjay Kandari (Remotely)
18.	NIKUZE	Claudia	IR157	19/1/2026	- Awareness about ownership of VERs - Working condition of borehole unit - SD parameters verification	HAGUMA Jean Claude (On-site)/Sanjay Kandari (Remotely)
19.	NSEKANABO	Celestin	IR157	19/1/2026	- Awareness about ownership of VERs - Working condition of borehole unit - SD parameters verification	HAGUMA Jean Claude (On-site)/Sanjay Kandari (Remotely)
20.	NIYITEGEKA	Bonaventure	IR157	19/1/2026	- Awareness about ownership of VERs	HAGUMA Jean Claude (On-site)

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					- Working condition of borehole unit - SD parameters verification	
21.	MURWANASHYAKA	Jean Baptiste	IR157	19/1/2026	- Awareness about ownership of VERs - Working condition of borehole unit - SD parameters verification	HAGUMA Jean Claude (On-site)/Sanjay Kandari (Remotely)
22.	NIYIBIZI	Christophe	IR85	20/1/2026	- Awareness about ownership of VERs - Working condition of borehole unit - SD parameters verification	HAGUMA Jean Claude (On-site)/Sanjay Kandari (Remotely)
23.	TWAGIRIMANA	Jean	IR85	20/1/2026	- Awareness about ownership of VERs - Working condition of borehole unit - SD parameters verification	HAGUMA Jean Claude (On-site)/Sanjay Kandari (Remotely)

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24.	NYIRANSABIMANA	Appoline	IR85	20/1/2026	- Awareness about ownership of VERs - Working condition of borehole unit - SD parameters verification	HAGUMA Jean Claude (On-site)/Sanjay Kandari (Remotely)
25.	KABERA	Emmanuel	IR85	20/1/2026	- Awareness about ownership of VERs - Working condition of borehole unit - SD parameters verification	HAGUMA Jean Claude (On-site)/Sanjay Kandari (Remotely)
26.	SAGAHUTU	Jean Bosco	IR85	20/1/2026	- Awareness about ownership of VERs - Working condition of borehole unit - SD parameters verification	HAGUMA Jean Claude (On-site)/Sanjay Kandari (Remotely)
27.	SIMPUNGA	Theogene	IR85	20/1/2026	- Awareness about ownership of VERs	HAGUMA Jean Claude (On-site)/Sanjay

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					- Working condition of borehole unit - SD parameters verification	Kandari (Remotely)
28.	HABIYAKARE	Jean Marie Vianney	IR85	20/1/2026	- Awareness about ownership of VERs - Working condition of borehole unit - SD parameters verification	HAGUMA Jean Claude (On-site)/Sanjay Kandari (Remotely)
29.	NDAYISABA	Fabrice	IR128	20/1/2026	- Awareness about ownership of VERs - Working condition of borehole unit - SD parameters verification	HAGUMA Jean Claude (On-site)/Sanjay Kandari (Remotely)
30.	MBONIGABA	Augustin	IR128	20/1/2026	- Awareness about ownership of VERs - Working condition of borehole unit - SD parameters verification	HAGUMA Jean Claude (On-site)/Sanjay Kandari (Remotely)

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31.	SIBOMANA	Silas	IR128	20/1/2026	- Awareness about ownership of VERs - Working condition of borehole unit - SD parameters verification	HAGUMA Jean Claude (On-site)/Sanjay Kandari (Remotely)
32.	NKUNDABAGENZI	Emmanuel	IR128	20/1/2026	- Awareness about ownership of VERs - Working condition of borehole unit - SD parameters verification	HAGUMA Jean Claude (On-site)/Sanjay Kandari (Remotely)
33.	MUSHIMIYIMANA	Jean Claude	IR128	20/1/2026	- Awareness about ownership of VERs - Working condition of borehole unit - SD parameters verification	HAGUMA Jean Claude (On-site)/Sanjay Kandari (Remotely)
34.	HABINSHUTI	Celestin	IR128	20/1/2026	- Awareness about ownership of VERs	HAGUMA Jean Claude (On-site)/Sanjay

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					- Working condition of borehole unit - SD parameters verification	Kandari (Remotely)
35.	MUNYESHYAKA	Nahson	IR128	20/1/2026	- Awareness about ownership of VERs - Working condition of borehole unit - SD parameters verification	HAGUMA Jean Claude (On-site)/Sanjay Kandari (Remotely)
36.	NKUNZIMANA	Eliakim	IR298	21/1/2026	- Awareness about ownership of VERs - Working condition of borehole unit - SD parameters verification	HAGUMA Jean Claude (On-site)/Sanjay Kandari (Remotely)
37.	NSABUWAJE	Vincent	IR298	21/1/2026	- Awareness about ownership of VERs - Working condition of borehole unit - SD parameters verification	HAGUMA Jean Claude (On-site)/Sanjay Kandari (Remotely)

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38.	KARANGWA	Amon	IR298	21/1/2026	- Awareness about ownership of VERs - Working condition of borehole unit - SD parameters verification	HAGUMA Jean Claude (On-site)/Sanjay Kandari (Remotely)
39.	UWINSHUTI	Belancile	IR298	21/1/2026	- Awareness about ownership of VERs - Working condition of borehole unit - SD parameters verification	HAGUMA Jean Claude (On-site)/Sanjay Kandari (Remotely)
40.	NIYOMUGABO	Marcel	IR298	21/1/2026	- Awareness about ownership of VERs - Working condition of borehole unit - SD parameters verification	HAGUMA Jean Claude (On-site)/Sanjay Kandari (Remotely)
41.	NYAKARUNDI	Theophile	IR298	21/1/2026	- Awareness about ownership of VERs	HAGUMA Jean Claude (On-site)/Sanjay

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					- Working condition of borehole unit - SD parameters verification	Kandari (Remotely)
42.	Theoneste	Theoneste	-	21/1/2026	- Awareness about ownership of VERs - Working condition of borehole unit - SD parameters verification	HAGUMA Jean Claude (On-site)/Sanjay Kandari (Remotely)

D.4. Sampling approach

>> During the on-site verification, a random sampling approach has been used by the verification team to verify the reported values of the monitored parameters as listed in the MR, version 1 which are determined through sampling by VPA Implementer.

Sampling approach during verification audit is conducted in accordance with “Guidelines for Sampling and Surveys for CDM Project Activities and Programme Activities, Version 04.0” and the “Standard for Sampling and Surveys for CDM Project Activities and Programme Activities, Version 09.0”/6/.

The verification team followed the “Standard for Sampling and Surveys for CDM Project Activities and Programme Activities” version 09, para 29 and 33, esp. for taking samples out of the VPA Implementer’s sample. Verification has adopted the acceptance sampling approach in order to verify the sampling result of the CME/VPA Implementer for the applied verification period.

For the determination of VVB’s acceptance sample size in the checklist, verification team assumed the following factors:

1. Acceptable quality level (AQL) – 1.0%
2. Unacceptable Quality Level (UQL) – 10%
3. Producer risk- 10%
4. Consumer risk- 15%

Verification team has determined acceptance sample size based on the “Table. Sample size and acceptance number based on AQL, UQL, and producer and consumer risks” of standard “Sampling and surveys for CDM project activities and programme of activities” version 09.0/6/. From the above assumed factors, the verification team determined the minimum sample size (n) as 33 minimum samples for end user places under the project and acceptance number (c) as one (1). The verification team shared the samples with the VPA Implementer during physical on-site visit.

The actual number of sample size where the acceptance survey was done given below:

Parameters	Total Population	VPA Implementer’s sample size	Acceptance sample size (n)	Acceptance Number (C)	Sampling method used
Monitoring parameters as per the MR	50,219 for the period from 25/07/2024 to 24/07/2025 and 50,526 for the period from 25/07/2025 to 31/12/2025 (HHS) & 251 Boreholes	160 for Monitoring Survey (WCFT & Usage survey)	33	1	Acceptance sampling using Random sample

During site visit, Verification team visited sample households applying the random selection technique to crosscheck the data reported by VPA Implementer. VVB has chosen the users randomly from the PP’s survey, while doing the process the acceptance sampling was used with professional judgement to arrive at the sample size. All the boreholes are installed in the Southern Province of Rwanda, with similar socio-economic conditions therefore considered as homogeneous. The logistics challenges were also considered as the project is in LDC wherein, the roads are in worst conditions. The verification team has checked the VPA Implementer samples result with the on-site interview, monitoring survey results /12/, End-user agreements /11/ and households data base as per the ER sheet /03/ and found consistent. The result of the survey is given below:

Parameters	VVB Sample size (n)	No VPA Implementer's record beyond unacceptable level (C)	Accepted Samples ByVVB	Accepted/ Rejected
Monitoring parameters as per the MR	33	0	33	Accepted

All the visited samples were showing similar result as reported by VPA Implementer in its monitoring records. Onsite audit results/observation is found to be in line with VPA Implementer surveys and results. Further, all the primary monitoring records during in person onsite assessment were reviewed to assess the consistency of information in MR and ER calculation spreadsheet and found the monitoring data to be correctly transcribed. Based on that, verification team concludes that sampling results and values presented by CME in the MR and spread sheet and results of survey are consistent with the on-site observation and interview with the end users.

Hence, verification team confirms that VPA Implementer 's survey/sampling records to be acceptable in-line with the requirements of the Sampling Standard and Guidance /6/.

D.5. Clarification requests, corrective action requests and forward action requests raised

Areas of verification findings	No. of CL	No. of CAR	No. of FAR
General			
Compliance of the monitoring report with the monitoring report form	-		-
Remaining forward action requests from validation and/or previous verifications	-	-	FAR#01
VPA's considered for verification and covered in this report	CL#01	-	-
Programme of activities			
Compliance of the programme implementation with the registered PoA-DD	-	-	-
Implementation and operation of the management system	-	-	-
Post-registration changes	-	-	-
• Corrections	-	-	-
• Inclusion of a monitoring plan	-	-	-
• Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other methodological regulatory documents ³	-	-	-
• Changes to the programme design	-	-	-
• Addition of VPA inclusion template	-	-	-
• Change of coordinating/managing entity	-	-	-
• Changes specific to afforestation and reforestation activities	-	-	-
Component project activities	-	-	-
Compliance of the VPA implementation with the included VPA design document	-	-	-
Post-registration changes	-	-	-
• Temporary deviations from registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents	-	-	-
• Corrections	-	-	-

³ Other standards, methodologies, methodological tools and guidelines (to be) applied in accordance with the applied(selected) methodologies are collectively referred to as the other (applied) methodological regulatory documents).

• Changes to the start date-of the crediting period	-	-	-
• Inclusion of a monitoring plan	-	-	-
• Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other methodological regulatory documents	-	-	-
• Changes to the project design	-	-	-
• Changes specific to afforestation and reforestation activities	-	-	-
Compliance of the registered monitoring plan with applied methodologies and standardized baselines	-	CAR#01	-
Compliance of monitoring activities with the registered monitoring plan	-	-	-
• Data and parameters fixed ex ante or at renewal of crediting period	-	-	-
• Data and parameters monitored			
• Implementation of sampling plan	CL#02 CL#03 CL#04		
Compliance with the calibration frequency requirements for measuring instruments	-	-	-
Assessment of data and calculation of emission reductions or net removals	-	-	-
• Calculation of baseline GHG emissions or baseline net GHG removals by sinks	CL#05	-	-
• Calculation of project GHG emissions or actual net GHG removals by sinks	-	-	-
• Calculation of leakage GHG emissions	-	-	-
• Summary of calculation of GHG emission reductions or net GHG removals by sinks	-	-	-
• Comparison of actual GHG emission reductions or net GHG removals by sinks with estimates in included VPA	-	-	-
• Remarks on difference from estimated value in included VPA	-	-	-
Assessment of reported sustainable development co-benefits	-	-	-
Global stakeholder consultation	-	-	-
Others (please specify)	-	-	-
Total	05	01	01

SECTION E. Verification findings

E.1. General

E.1.1. Compliance of the monitoring report with the monitoring report form

Means of verification	PP used GS monitoring report template, version 1.1./4/ Verification team checked the GS monitoring report, version 2 /1/ with latest version of "GS Template" /4/ and found OK. All the sections of the form were filled as per the GS4GG guidelines/6/ and provided all the relevant details.
Findings	Nil
Conclusion	Verification team confirms that final monitoring report, v 2/01/ is completed using the latest valid version of the applicable monitoring report form /4/, hence the monitoring report is complying with the monitoring report form.

E.1.2. Remaining forward action requests from validation and/or previous verifications

>> FAR#01 was raised by the GS during the first performance review and addressed by CME. The adequate corrections are applied as per the FAR during the verification. Please refer the FAR in the Appendix 4 of the verification report wherein the assessment of the same has been demonstrated in detail. The FAR is closed.

E.1.3. VPAs considered for verification and covered in this report

Title and GS reference number of the VPA included in the PoA as of the end of this monitoring period	Is the VPA considered for this verification? (yes/no)	The date when the VPA was included (Date of Design Certification)	Version of the PoA-DD	Confirmation that a request for issuance including the VPA has been published for the previous monitoring period (Y/N)
GS10959 VPA01 Safe Water Project in Rwanda I (GS11098)	Yes	19/08/2021	05	Y
GS10959 VPA02 Safe Water Project in Rwanda II (GS 11133)	Yes	19/08/2021	05	Y
GS10959 VPA03 Safe Water Project in Rwanda III (GS11134)	Yes	19/08/2021	05	Y
GS10959 VPA04 Safe Water Project in Rwanda IV (GS 11135)	Yes	19/08/2021	05	Y
GS10959 VPA05 Safe Water Project in Rwanda V (GS11136)	Yes	19/08/2021	05	Y
GS10959 VPA06 Safe Water Project in Rwanda VI (GS11137)	Yes	19/08/2021	05	Y
GS10959 VPA07 Safe Water Project in Bangladesh I (GS11150)	No	19/08/2021	05	Y
GS10959 VPA08 Safe Water Project in Bangladesh II (GS11151)	No	19/08/2021	05	Y
GS10959 VPA09 Safe Water Project in Bangladesh III (GS11152)	No	19/08/2021	05	Y
GS10959 VPA10 Safe Water Project in Bangladesh IV (GS11153)	No	19/08/2021	05	Y

E.2. Programme of activities**E.2.1. Compliance of the programme implementation with the registered programme design document**

Means of verification	CME:	Guangzhou Iceberg Environmental Consulting Services Co., Ltd.
	Project Parties:	NA being a voluntary project
	Title of voluntary project activity:	1. GS10959 VPA01 Safe Water Project in Rwanda I 2. GS10959 VPA02 Safe Water Project in Rwanda II 3. GS10959 VPA03 Safe Water Project in Rwanda III 4. GS10959 VPA04 Safe Water Project in Rwanda IV 5. GS10959 VPA05 Safe Water Project in Rwanda V 6. GS10959 VPA06 Safe Water Project in Rwanda VI
	GS registration No:	GS 11098, GS 11133, GS 11134, GS 11135, GS 11136, GS 11137

	Baseline and monitoring methodology:	Gold Standard Voluntary Methodology “Technologies and Practices to Displace Decentralized Thermal Energy Consumption” version 3.1/6/																						
	Project Type:	Access to safe drinking water.																						
	Location of the project activity:	Rwanda																						
	Project's crediting period:	GS 11098: 27/11/2021-26/11/2026, GS 11133: 26/11/2021-25/11/2026, GS 11134: 26/11/2021-25/11/2026, GS 11135: 09/01/2022-08/01/2027, GS 11136: 12/12/2021-11/12/2026, GS 11137: 10/01/2022-09/01/2027 The VPA DDs mentioned the expected dates of the crediting periods as all the VPAs were not implemented at the time of VPA inclusions therefore expected date as per Paragraph 4.1.40 of Principles & Requirements (Version 2.1) was mentioned. During the verification the start date is mentioned actual date of rehabilitation of first borehole. The date is verified in compliance with the above cited para of the 'Principles & Requirements (Version 2.1)/4/. The dates were verified with the certificates of rehabilitation of first borehole in each VPA.																						
	Total Duration of the project:	5 years (renewal)																						
	Period verified in this verification:	<table border="1"> <thead> <tr> <th>VPA No.</th> <th>Start date</th> <th>End date</th> </tr> </thead> <tbody> <tr> <td>VPA01</td> <td>25/07/2024</td> <td>31/12/2025</td> </tr> <tr> <td>VPA02</td> <td>25/07/2024</td> <td>31/12/2025</td> </tr> <tr> <td>VPA03</td> <td>25/07/2024</td> <td>31/12/2025</td> </tr> <tr> <td>VPA04</td> <td>25/07/2024</td> <td>31/12/2025</td> </tr> <tr> <td>VPA05</td> <td>25/07/2024</td> <td>31/12/2025</td> </tr> <tr> <td>VPA06</td> <td>25/07/2024</td> <td>31/12/2025</td> </tr> </tbody> </table> (including both dates)			VPA No.	Start date	End date	VPA01	25/07/2024	31/12/2025	VPA02	25/07/2024	31/12/2025	VPA03	25/07/2024	31/12/2025	VPA04	25/07/2024	31/12/2025	VPA05	25/07/2024	31/12/2025	VPA06	25/07/2024
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VPA05	25/07/2024	31/12/2025																						
VPA06	25/07/2024	31/12/2025																						

As part of the onsite assessment, the verification team was able to confirm that the project implementation is in accordance with the project description in the VPA DDs. The voluntary project activities GS 11098, GS 11133, GS 11134, GS 11135, GS 11136, GS 11137 aims to reduce greenhouse gas emissions, curb deforestation and improve air quality by providing the access to safe & clean drinking water. The use of non-renewable biomass such as wood in baseline scenario for water boiling, leads to the emission of greenhouses gases, deforestation and poor indoor climate. The VPA involves installation of infrastructure, thus improving the access to safe water for communities in the southern provinces of Rwanda in East Africa, under the PoA, to significantly reduce the consumption of non-renewable biomass and other greenhouse gas emitting fuels for water treatment.

The project activity is implemented in line with the registered/recent version of VPA-DDs.

There are 251 boreholes repaired in the project and verified with the database along with physically verified during site visit based on accepting sampling. No additional borehole rehabilitation/added took place during the monitoring period. In the monitoring period, the boreholes were maintained by the CME and VPA implementer, functioning well to provide enough clean water to over 190,000 local people.

	The GHG offset during this monitoring period are 496,357 tCO₂e covering all the 6 VPAs in this current batch of verification/performance review. The list of beneficiaries by the VPA was submitted to VVB and based on the review of list, their agreement with CME, water quality test reports and other evidence inter alia, VVB concluded that the VPAs were implemented in line with the registered VPA-DDs and in line with the framework of registered PoA. The end date for the last borehole rehabilitated of each VPA included in the MR, the data was verified from the project database/9/ and the evidence viz sworn statements /11/ submitted to the project verification team. It was verified that the carbon rights of the project technology are explicit with the CME, this was verified from the signed agreements between the CME and the users, the HHs have no other water source. CME has undertaken the usage survey to reaffirm the same and this was also confirmed as part of acceptance sampling undertaken by the VVB. According to the result of the Usage Survey by PP, acceptance sampling by VVB, there is no access to an alternative water purification technology. According to the data of World Bank provided by the CME, the population density of Rwanda is 546 people per square kilometers. In other word, with the borehole as the center of the circle and a radius of 660 meters, the population of 251 boreholes could reach 187,756. The data source is: https://data.worldbank.org/indicator/EN.POP.DNST?locations=RW Moreover, as part of physical inspection during the onsite audit, it was found that the villages are significantly distanced from each other in the implemented VPAs. Therefore, the verification team rules out any overlapping. Independent research carried out by the VVB by reviewing the other GHG project's websites to confirm whether any safe water project is registered. The websites of VERRA, CDM, VERRA, UCR, Cercarbono and other GHG websites were searched, and it was found that no other GHG project/VPA/POA on similar technology is registered in South Province of Rwanda.
Findings	CL#01 was raised and closed.
Conclusion	The project activity was implemented, and the details of beneficiaries described in the recent version of GS4GG VPA-DDs. Based on physical site visit, interview and the reviewed project documentation along with documentary evidence, it can be confirmed that the project implementation is in accordance with realized technology. The project has been implemented and operated as described in the recent version of VPA-DDs.

E.2.2. Implementation and operation of the management system

Means of verification	The verification team determined the implementation and operation management system through the audit and interview with the CME representative. The verification team checked whether the actual management system was implemented in accordance with the management system described in the PoA-DD /14/. During audit, verification team checked the procedures implemented for inclusion of VPA, roles and responsibilities, quality check etc.
Findings	No CAR/CL raised in this regard.
Conclusion	The verification team confirms that the implementation and operation of the PoA management system, including the record-keeping system, complies with the PoA-DD /14/.

E.2.3. Post-registration changes**E.2.3.1. Corrections**

>> Not applicable.

E.2.3.2. Inclusion of a monitoring plan

>> Not applicable.

E.2.3.3. Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other methodological regulatory documents

>>

Not applicable.

E.2.3.4. Changes to the programme design

>>

Not applicable.

E.2.3.5. Addition of VPA inclusion template

>> Not applicable.

E.2.3.6. Change of coordination/managing entity

>> Not applicable.

E.2.3.7. Changes specific to afforestation and reforestation activities

>> Not applicable.

E.3. Voluntary project activities

E.3.1. Compliance of the VPA implementation with the included VPA design document

Means of verification	The voluntary project activities GS 11098, GS 11133, GS 11134, GS 11135, GS 11136, GS 11137 aims to reduce greenhouse gas emissions, curb deforestation and improve air quality by providing the access to safe & clean drinking water. The use of non-renewable biomass such as wood in baseline scenario for water boiling, leads to the emission of greenhouses gases, deforestation, and poor indoor climate. The VPA involves installation of infrastructure, thus improving the access to safe water for communities in the southern provinces of Rwanda in East Africa, under the PoA, to significantly reduce the consumption of non-renewable biomass and other greenhouse gas emitting fuels for water treatment. The project activity is implemented in line with the registered/recent version of VPA-DDs. There are 251 boreholes repaired in the project and verified with the database along with physically verified during site visit based on accepting sampling. In the monitoring period, the boreholes were maintained by the CME and VPA implementer, functioning well to provide enough clean water to over 190,000 local people. The GHG offset during this monitoring period are 496,357 tCO₂e covering all the 6 VPAs in this current batch of verification/performance review. The list of beneficiaries by the VPA was submitted to VVB and based on the review of list, their agreement with CME/11/, water quality test reports/18/ and other evidence inter alia, VVB concluded that the VPAs were implemented in line with the registered VPA-DDs and in line with the framework of registered PoA. Monitoring procedure of GHG data is found sufficient and in accordance with the procedures stipulated under the registered monitoring plan. The timeline of the project's implementation is as follow:																												
	<table><tr><th>Milestone of the project activity</th><th>Timeline</th><th>Assessment by the verification team</th></tr><tr><td colspan="3">Crediting period:</td></tr><tr><td>1) GS 11098:</td><td>27/11/2021-26/11/2026,</td><td></td></tr><tr><td>2) GS 11133:</td><td>26/11/2021-25/11/2026</td><td></td></tr><tr><td>3) GS 11134:</td><td>26/11/2021-25/11/2026,</td><td></td></tr><tr><td>4) GS 11135:</td><td>09/01/2022-08/01/2027,</td><td></td></tr><tr><td>5) GS 11136:</td><td>12/12/2021-11/12/2026,</td><td></td></tr><tr><td>6) GS 11137:</td><td>10/01/2022-09/01/2027</td><td></td></tr></table>					Milestone of the project activity	Timeline	Assessment by the verification team	Crediting period:			1) GS 11098:	27/11/2021-26/11/2026,		2) GS 11133:	26/11/2021-25/11/2026		3) GS 11134:	26/11/2021-25/11/2026,		4) GS 11135:	09/01/2022-08/01/2027,		5) GS 11136:	12/12/2021-11/12/2026,		6) GS 11137:	10/01/2022-09/01/2027	
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The VPA DDs mentioned the expected dates of the crediting periods as all the VPAs were not implemented at the time of VPA inclusions therefore expected date as per Paragraph 4.1.40 of Principles & Requirements (Version 2.1/4/) was mentioned. During the verification the start date is mentioned actual date of rehabilitation of first borehole. The date is verified in compliance with the above cited para of the 'Principles & Requirements (Version 2.1)'. The dates were verified with the certificates of rehabilitation of first borehole in each VPA.																													
1 st monitoring period (Issued)		VPA No.	Start date	End date	Verification team has verified the same from the first, second and third performance reviews																								
		VPA01	27/11/2021	24/07/2022																									
		VPA02	26/11/2021	24/07/2022																									
		VPA03	26/11/2021	24/07/2022																									
		VPA04	09/01/2022	24/07/2022																									
		VPA05	12/12/2021	24/07/2022																									

			VPA06	10/01/2022	24/07/2022	documents available on the GS registry. Also, the monitoring period is within the first crediting period of respective VPAs. The crediting periods dates also verified from the GS review forms.
	2 nd monitoring period (Issued)		VPA	Start date	End date	
			No.			
			VPA01	25/07/2022	24/07/2023	
			VPA02	25/07/2022	24/07/2023	
			VPA03	25/07/2022	24/07/2023	
			VPA04	25/07/2022	24/07/2023	
			VPA05	25/07/2022	24/07/2023	
		VPA06	25/07/2022	24/07/2023		
	3 rd monitoring period (Issued)		VPA	Start date	End date	
			No.			
			VPA01	25/07/2023	23/07/2024	
			VPA02	25/07/2023	23/07/2024	
			VPA03	25/07/2023	23/07/2024	
			VPA04	25/07/2023	23/07/2024	
			VPA05	25/07/2023	23/07/2024	
	VPA06	25/07/2023	23/07/2024			
The water flow test undertaken by the CME to check the capacity of boreholes was verified also by undertaking the sample checks during the previous verification as well as in the current verification. The number of strokes to fill a bucket were reconfirmed during the onsite audit. According to Page 9, Table 1 of Document 18 (technical specification) submitted to the verification team, the India Mark hand pumps studied in the report can reach more than 30,000 strokes per day. And by the technical specifications it can provide 7371 Liters/day water, which is way beyond the cap of 2000 Liters/day for 300 users. CME has also submitted the video of the same.						
Findings		Nil				
Conclusion		The VPA were implemented, and the details of beneficiaries described in the recent version of GS4GG VPA-DDs. Based on site visit, interview and the reviewed project documentation along with documentary evidence, it can be confirmed that the project implementation is in accordance with realized technology. The project has been implemented and operated as described in the recent version of VPA-DDs. The monitoring and sustainable development indicators parameters are also monitored as per the recent version of VPA-DDs and GS4GG guideline and found to be appropriate.				

E.3.2. Post-registration changes

E.3.2.1. Temporary deviations from the registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents

>> Not applicable.

E.3.2.2. Corrections

>>

Not applicable.

E.3.2.3. Changes to the start-date of the crediting period

>>

Not applicable.

E.3.2.4. Inclusion of a monitoring plan

>> Not applicable.

E.3.2.5. Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other methodological regulatory documents

>>

Not applicable.

E.3.2.6. Changes to the project design

>>

Not applicable.

E.3.2.7. Changes specific to afforestation and reforestation activities

>>

Not applicable.

E.3.3. Compliance of the registered monitoring plan with applied methodologies and standardized baselines

Means of verification	The VVB verification team was able to confirm that the monitoring plan contained in the recent version of GS4GG POA/VPA-DDs/14/, /2/ is in accordance with the approved methodology applied by the project activity “Technologies and Practices to Displace Decentralized Thermal Energy Consumption” version 3.1/6/. The monitoring plan along with sampling & survey for baseline as well as the project case is described in the recent version of GS4GG POA/VPA-DDs. During the verification all relevant monitoring parameters (as listed in the POA/VPA-DDs /14/, /2/) have been verified about the appropriateness of the applied measurement / determination method, the correctness of the values applied for ER calculation, the accuracy, and applied QA/QC measures.
Findings	N/A
Conclusion	The monitoring plan mentioned in the registered/recent version of GS4GG POA/VPA-DDs is in line with the applied methodology i.e. “Technologies and Practices to Displace Decentralized Thermal Energy Consumption” version 3.1/6/. The monitoring mechanism is in line with the methodology and is effective and reliable.

E.3.4. Compliance of monitoring activities with the registered monitoring plan

E.3.4.1. Data and parameters fixed ex ante or at renewal of crediting period

Means of verification	Relevant SDG Indicator	SDG 13 / Climate Change Mitigation measured as reduced tCO ₂ e SDG 6 / Indicator 6.1.1
	Data/parameter	C _j
	Unit	Percentage
	Description	Percentage of users of project technology who were already in baseline using a non-boiling safe water supply
	Source of data	Baseline surveys The data is obtained through baseline survey as per the applied methodology as well as "Standard: Sampling and surveys for CDM project activities and programmes of activities (Version 09.0)" and "Guidelines for sampling and surveys for CDM project activities and programmes of activities (Version 04.0)". The Baseline Survey was conducted by representative and random sampling during from 08/06/2021 to 15/06/2021. The result is 0.0083.
	Value(s) applied	0.0083
	Choice of data or Measurement methods and procedures	Deemed valid by the methodology
	Purpose of data	Calculation of baseline and project emissions (SDG 13) as well as number of persons consuming safe water supplied by the Project (SDG 6)
	Additional comment	
	Relevant SDG Indicator	SDG 13 / Climate Change Mitigation measured as reduced tCO ₂ e
	Data/parameter	W _{b,y}
	Unit	Tons/litre
	Description	Quantity of wood fuel or fossil fuel required to boil 1 litre of water using technologies representatives of baseline scenario b during year y
	Source of data	Default value
	Value(s) applied	0.0004 (Default)
	Choice of data or Measurement methods and procedures	The default value of W _{b,y} for firewood as per "Application of TPDDTEC Methodology to Safe Water Supply Projects"
	Purpose of data	Calculation of baseline emissions
	Additional comment	-
	Relevant SDG Indicator	SDG 13 / Climate Change Mitigation measured as reduced tCO ₂ e
	Data/parameter	W _{p,y}
	Unit	Tons/litre

Description	Quantity of wood fuel or fossil fuel required to boil 1 litre of water using technologies representatives of project scenario p during year y
Source of data	Default value
Value(s) applied	0.0004 (Default)
Choice of data or Measurement methods and procedures	According to the baseline and project survey, the same water boiling technology is applied in the baseline and project scenarios. So $W_{b,y}$ and $W_{p,y}$ are equal
Purpose of data	Calculation of project emissions
Additional comment	-

Relevant SDG Indicator	SDG 13 / Climate Change Mitigation measured as reduced tCO ₂ e
Data/parameter	$f_{NRB,b,y} / f_{NRB,p,y}$
Unit	Percentage
Description	Fraction of biomass used that can be established as non – renewable biomass in the baseline scenario b during year y & Project scenario p respectively.
Source of data	As per the “TOOL30: Calculation of the fraction of non-renewable biomass, version 3.0”. Please refer to registered PDD.
Value(s) applied	96.82% (Validated by the validating VVB and approved by the Sustaincert)
Choice of data or Measurement methods and procedures	As per the “TOOL30: Calculation of the fraction of non-renewable biomass, version 3.0”.
Purpose of data	Calculation of baseline emissions
Additional comment	

Relevant SDG Indicator	SDG 13 / Climate Change Mitigation measured as reduced tCO ₂ e
Data/parameter	$NCV_{b,fuel} / NCV_{p,fuel}$
Unit	TJ/ton
Description	Net calorific value of firewood in baseline scenario b & Project scenario p respectively.
Source of data	IPCC 2006 default for firewood
Value(s) applied	0.0156
Choice of data or Measurement methods and procedures	Deemed valid by the methodology
Purpose of data	Estimation of CO ₂ e emissions reductions
Additional comment	-

Relevant SDG Indicator	SDG 13 / Climate Change Mitigation measured as reduced tCO ₂ e
Data/parameter	$EF_{b,fuel,co2} / EF_{p,fuel,co2}$

Unit	tCO ₂ /TJ
Description	CO ₂ emission factor of fuels used in the baseline scenario b & Project scenario p respectively.
Source of data	IPCC default value for Wood: IPCC 2006 Guidelines for National Greenhouse gas Inventories Chapter 2: Stationary Combustion Page 2.23 Table 2.5
Value(s) applied	112
Choice of data or Measurement methods and procedures	According to the baseline survey, wood is the only fuel used in the baseline scenario.
Purpose of data	Calculation of baseline emissions
Additional comment	-

Relevant SDG Indicator	SDG 13 / Climate Change Mitigation measured as reduced tCO ₂ e
Data/parameter	X _{boil(i)}
Unit	Percentage
Description	Percentage of premises that in the absence of the project activity would have used non-GHG emitting technologies like chlorine treatment techniques (if available) in the project boundary.
Source of data	Baseline survey in registered VPA DD/2/
Value(s) applied	0
Choice of data or Measurement methods and procedures	The data is obtained through baseline survey as per the applied methodology as well as "Standard: Sampling and surveys for CDM project activities and programmes of activities (Version 09.0)" and "Guidelines for sampling and surveys for CDM project activities and programmes of activities (Version 04.0)". The Baseline Survey was conducted by representative and random sampling during from 08/06/2021 to 15/06/2021. The result is 0.

Relevant SDG Indicator	SDG 13 / Climate Change Mitigation measured as reduced tCO ₂ e
Data/parameter	GWP _{CH4}
Unit	-
Description	Global warming potential for CH ₄
Source of data	IPCC Fifth Assessment Report: Climate Change 2014
Value(s) applied	28
Choice of data or Measurement methods and procedures	As per "IPCC Fifth Assessment Report: Climate Change 2014", the value is 28.

Relevant SDG Indicator	SDG 13 / Climate Change Mitigation measured as reduced tCO ₂ e
Data/parameter	GWP _{N2O}
Unit	-
Description	Global warming potential for N2O
Source of data	IPCC Fifth Assessment Report: Climate Change 2014
Value(s) applied	265
Choice of data or Measurement methods and procedures	As per "IPCC Fifth Assessment Report: Climate Change 2014", the value is 265.

Relevant SDG Indicator	SDG 13 / Climate Change Mitigation measured as reduced tCO ₂ e
Data/parameter	$EF_{b,fuel,non\ CO_2} / EF_{p,fuel,non\ CO_2}$
Unit	tCO ₂ /TJ
Description	Non-CO ₂ emission factor of fuels used in the baseline scenario & Project scenario respectively.
Source of data	IPCC default value for Wood: IPCC 2006 Guidelines for National Greenhouse gas Inventories Chapter 2: Stationary Combustion Page 2.23 Table 2.5 IPCC Fifth Assessment Report: Climate Change 2014
Value(s) applied	9.46
Choice of data or Measurement methods and procedures	According to the baseline survey, wood is the only fuel used in the baseline scenario. As per "IPCC 2006 Guidelines for National Greenhouse gas Inventories", the default emission factor of CH ₄ and N ₂ O for stationary combustion is 0.3t/TJ and 0.004t/TJ, respectively. As per "IPCC Fifth Assessment Report: Climate Change 2014", the global warming potential for CH ₄ and N ₂ O is 28 and 265, respectively. So $EF_{b,non\ CO_2} = 0.3 \times 28 + 0.004 \times 265 = 9.46$.

Relevant SDG Indicator	SDG 5 / Gender Equality
Data/parameter	T _b
Unit	Hour
Description	Time spent to fetch and purify water by women and girls per household per day in the baseline scenario
Source of data	Baseline survey in the registered PDD
Value(s) applied	0.90
Choice of data or Measurement methods and procedures	The data is obtained through baseline survey as per the applied methodology as well as "Standard: Sampling and surveys for CDM project activities and programmes of activities (Version 09.0)" and "Guidelines for sampling and surveys for CDM project activities and programmes of activities (Version 04.0)". The Baseline Survey was conducted by representative and random sampling

		during from 08/06/2021 to 15/06/2021. The result is 0.90.	
	Purpose of data	Calculation of percentage reduction of time spent to fetch and purify water by women and girls	
	Additional comment	-	
	Relevant SDG Indicator	SDG 3 / Good Health and Well-Being	
	Data/parameter	lb	
	Unit	Percentage	
	Description	Waterborne illness incidence in the baseline scenario	
	Source of data	Baseline survey in the registered PDD	
	Value(s) applied	38.45%	
	Choice of data or Measurement methods and procedures	The data is obtained through baseline survey as per the applied methodology as well as "Standard: Sampling and surveys for CDM project activities and programmes of activities (Version 09.0)" and "Guidelines for sampling and surveys for CDM project activities and programmes of activities (Version 04.0)". The Baseline Survey was conducted by representative and random sampling during from 08/06/2021 to 15/06/2021. The result is 38.45%.	
	Purpose of data	Calculation of reduction of waterborne illness incidence	
	Additional comment	-	
Findings	Nil		
Conclusion	The default values applied were found to be consistent with the recent version of GS4GG POA/VPA-DDs/2/,/14/, applied methodology and other relevant sources of data. The values fixed at the time of validation were from IPCC report and few were conservative values.		

E.3.4.2. Data and parameters monitored

Means of verification	Relevant SDG Indicator	SDG 13 / Climate Change Mitigation measured as reduced tCO ₂ e
	Data/parameter	Q _{p,y}
	Unit	Litres/person.day
	Description	Quantity of safe water in litres consumed in the project scenario p and supplied by project technology per person per day
	Source of data	Water consumption field test Means of Verification by VVB: Database was verified by the VVB and confirmed that the capped value is used in the calculation of emission reductions. VVB undertaken the acceptance sampling to verify the appropriateness of CME's sampling during onsite inspection and concluded that the per person water consumption was higher than the capped value. Two values are used corresponding to 2 WCFT surveys undertaken. The values are more or less consistent in both the WCFT surveys.
	Value(s) applied	25/07/2024 to 24/07/2025: 6.45 25/07/2025 to 31/12/2025: 6.81
	Measurement methods and procedures	The data obtained by WCFT through sampling survey as per the applied methodology as well as "Standard:

Sampling and surveys for CDM project activities and programmes of activities (Version 09.0)" and "Guidelines for sampling and surveys for CDM project activities and programmes of activities (Version 04.0)". The

WCFT were conducted by CME and ARDE from 16/05/2024 to 26/05/2024 and 01/12/2025 to 19/12/2025. The actual value is 7.63L for the 2nd WCFT. According to the applied methodology, the cap value for full-day premises is 7. So CME capped this value as 7 for each project borehole. As an average value for all project boreholes, the result is 6.45 and 6.81 for the 2 surveys used.

Water consumed by each household was reproduced through the acceptance sampling during the onsite survey by the verification team. No significant variation was observed therefore the results of CME's sampling were assessed adequate.

Moreover, the capped value of water consumption is used thus it also confirms the meeting of sampling reliability.

It was noted that $Q_{p,y}$ was established through the water consumption tests undertaken by the CME during the current verification by using the multi-stage sampling. The sampling approach was verified and found it was complying the CDM sampling requirements pertaining to the multi-stage sampling. Please also note that in the multi-stage sampling, if the required samples are monitored higher than the minimum sample size calculated and all samples were selected, it is considered that the desired confidence/precession is met. The excel worksheet including the detailed calculations of sample size which includes all the desired input/output put values for the multi-stage sampling viz standard deviation (SD), average of SD, overall mean inter alia were verified correct.

The parameter is determined through the multistage sampling and the sample size calculation is adequately verified from the document/excel sheet labeled as '3-Data Recording Form for WCFT_Rwanda_MP3rd'. The boreholes were classified in multiple clusters and the based on the desired 95/10 confidence/precession 8 boreholes in 8 villages were monitored among 160 users, the sample size calculation is demonstrated in the cited document and assessed correct. Since the minimum numbers are boreholes are monitored, it meets the desired confidence/precession. The equation 33 of the CDM sampling guidelines, version 4 used by CME and the reproduced calculation is part of the excel sheet wherein all the root parameters are adequately provided by the CME.

$$c \geq \frac{\left(\frac{SD_p}{Clustermean} \right)^2 \times \left(\frac{M}{M-1} \right) + \left(\frac{1}{n} \right) \times \left(\frac{SD_H}{Overallmean} \right)^2 \left(\frac{N-n}{N-1} \right)}{\left(\frac{0.1}{1.645} \right)^2 + \frac{1}{M-1} \left(\frac{SD_p}{Clustermean} \right)^2} \quad \text{Equation (33)}$$

The capped values are used as the actual consumption per person/households was above the capped value and as

	per the methodology the cap has to be applied. Though this has no relation with the outcome of sampling result.
Monitoring frequency	At least biennially, the 1st WCFT was conducted from 26/07/2022 to 18/08/2022. The 2nd WCFT was conducted from 16/05/2024 to 26/05/2024. The 3rd WCFT was conducted from 01/12/2025 to 19/12/2025. The frequency requirement has been met.
QA/QC procedures	Means of Verification by VVB: The trained staff of CME was deployed for the surveys and VVB interviewed the staff and found them knowledgeable and competent.
Purpose of data	Calculation of CO ₂ e emissions reductions
Additional comment	-

Relevant SDG Indicator	SDG 13 / Climate Change Mitigation measured as reduced tCO₂e
Data/parameter	Q _{p,rawboil,y}
Unit	Litres per person per day
Description	Quantity of raw or unsafe water that is still boiled after installation of the water treatment technology.
Source of data	Water consumption field test Means of Verification by VVB: Database was verified by the VVB and confirmed that the capped value is used in the calculation of emission reductions. VVB undertaken the acceptance sampling to verify the appropriateness of CME's sampling during onsite inspection and concluded that the using of raw water boiling is no more in use after the rehabilitation of project boreholes.
Value(s) applied	In both the surveys: 25/07/2024 to 24/07/2025: 0 25/07/2025 to 31/12/2025: 0
Measurement methods and procedures	Water Consumption Field Test Means of Verification by VVB: The data obtained by WCFT through sampling survey as per the applied methodology as well as "Standard: Sampling and surveys for CDM project activities and programmes of activities (Version 09.0)" and "Guidelines for sampling and surveys for CDM project activities and programmes of activities (Version 04.0)". The WCFT was conducted by the CME and ARDE from 16/05/2024 to 26/05/2024. CME considered the 160 samples to monitor the value by taking 20 samples from each of 8 boreholes in each WCFT surveys in total 16 boreholes. The sampling/survey was undertaken by the trained staff of CME, the HH's selected for survey were distributed 20 Liters jerrycans for water collection and then the CME's staff monitored the water consumption during WCFT. Database was verified by the VVB and confirmed that the capped value is used in the calculation of emission reductions.

	VVB undertaken the acceptance sampling to verify the appropriateness of CME's sampling during onsite inspection and concluded that the using of raw water boiling is no more in use after the rehabilitation of project boreholes. VVB also verified the water consumption during onsite audit and found no significant variation in both. It was noted that $Q_{p,rawboil,y}$ was established through the water consumption tests undertaken by the CME during the current verification by using the multi-stage sampling. The sampling approach was verified and found it was complying the CDM sampling requirements pertaining to the multi-stage sampling. Please also note that in the multi-stage sampling, if the required samples are monitored higher than the minimum sample size calculated and all samples were selected, it is considered that the desired confidence/precession is met. The excel worksheet including the detailed calculations of sample size which includes all the desired input/output values for the multi-stage sampling viz standard deviation (SD), average of SD, overall mean inter alia were verified correct. The parameters $Q_{p,rawboil,y}$, determined through the multistage sampling and the sample size calculation is adequately verified from the document/excel sheet labeled as '3-Data Recording Form for WCFT_Rwanda_MP4th'. The boreholes were classified in multiple clusters and the based on the desired 95/10 confidence/precession 8 boreholes in 8 villages were monitored among 160 users, the sample size calculation is demonstrated in the cited document and assessed correct. Since the minimum numbers are boreholes are monitored, it meets the desired confidence/precession. The equation 33 of the CDM sampling guidelines, version 4 used by CME and the reproduced calculation is part of the excel sheet wherein all the root parameters are adequately provided by the CME. $t \geq \frac{\left(\frac{SD_b}{Clustermean} \right)^2 \times \left(\frac{M}{M-1} \right) + \left(\frac{1}{u} \right) \times \left(\frac{SD_{\bar{y}}}{Overallmean} \right)^2 \left(\frac{\bar{N}-u}{\bar{N}-1} \right)}{\left(\frac{0.1}{1.645} \right)^2 + \frac{1}{M-1} \left(\frac{SD_b}{Clustermean} \right)^2} \quad \text{Equation (33)}$
Monitoring frequency	At least biennially, the 1st WCFT was conducted from 26/07/2022 to 18/08/2022. The 2nd WCFT was conducted from 16/05/2024 to 26/05/2024. The 3rd WCFT was conducted from 01/12/2025 to 19/12/2025. The frequency requirement has been met.
QA/QC procedures	Means of Verification by VVB: The trained staff of CME was deployed for the surveys and VVB interviewed the staff and found them knowledgeable and competent.
Purpose of data	Calculation of CO ₂ e emissions reductions
Additional comment	Nil

	Relevant SDG Indicator	SDG 13 (Climate Action), SDG 6 (Safe Water and Sanitation)
	Data/parameter	$Q_{p, \text{cleanboil}, y}$
	Unit	Liters per person per day
	Description	Quantity of safe (treated, or from safe supply) water boiled in the project scenario p, after installation of project technology
	Source of data	Water consumption field test Means of Verification by VVB: Database was verified by the VVB and confirmed that the capped value is used in the calculation of emission reductions. VVB undertaken the acceptance sampling to verify the appropriateness of CME's sampling during onsite inspection and concluded that the using of raw water boiling is no more in use after the rehabilitation of project boreholes.
	Value(s) applied	0
	Measurement methods and procedures	Water Consumption Field Test Means of Verification by VVB: The data obtained by WCFT through sampling survey as per the applied methodology as well as "Standard: Sampling and surveys for CDM project activities and programmes of activities (Version 09.0)" and "Guidelines for sampling and surveys for CDM project activities and programmes of activities (Version 04.0)". -The WCFT was conducted by CME and ARDE (Implementation partner) from 16/05/2024 to 26/05/2024. - At least biennially, the 1st WCFT was conducted from 26/07/2022 to 18/08/2022. The 2nd WCFT was conducted from 16/05/2024 to 26/05/2024. The 3rd WCFT was conducted from 01/12/2025 to 19/12/2025. The frequency requirement has been met. Means of Verification by VVB: The trained staff of CME was deployed for the surveys and VVB interviewed the staff and found them knowledgeable and competent. CME considered the 160 samples to monitor the value by taking representative samples from each VPA in each of the WCFT undertaken. CME considered the 160 samples to monitor the value by taking 20 samples from each of 8 boreholes in each of the 2 WCFT in the current MP. The sampling/survey was undertaken by the trained staff of CME, the HH's selected for survey were distributed 20 Liters jenkins for water collection and then the CME's staff monitored the water consumption during the survey.

		Database was verified by the VVB and confirmed that the capped value is used in the calculation of emission reductions. VVB undertaken the acceptance sampling to verify the appropriateness of CME's sampling during onsite inspection and concluded that the using of raw water boiling is no more in use after the rehabilitation of project boreholes. VVB also verified the water consumption during onsite audit and found no significant variation in both. It was noted that $Q_{p, \text{cleanboil}, y}$ was established through the water consumption tests undertaken by the CME during the current verification by using the multi-stage sampling. The sampling approach was verified and found it was complying the CDM sampling requirements pertaining to the multi-stage sampling. Please also note that in the multi-stage sampling, if the required samples are monitored higher than the minimum sample size calculated and all samples were selected, it is considered that the desired confidence/precession is met. The excel worksheet including the detailed calculations of sample size which includes all the desired input/output values for the multi-stage sampling viz standard deviation (SD), average of SD, overall inter alia were verified correct.	
	Monitoring frequency	At least biennially, the 1st WCFT was conducted from 26/07/2022 to 18/08/2022. The 2nd WCFT was conducted from 16/05/2024 to 26/05/2024. The 3rd WCFT was conducted from 01/12/2025 to 19/12/2025. The frequency requirement has been met.	
	QA/QC procedures	Means of Verification by VVB: The trained staff of CME was deployed for the surveys and VVB interviewed the staff and found them knowledgeable and competent.	
	Purpose of data	Calculation of project emissions	
	Additional comment	Nil	

Relevant SDG Indicator	SDG 6 (Clean Water and Sanitation) Indicator 6.1.1 – Proportion of population using safely managed drinking water services
Data/parameter	Quality of the treated water
Unit	As appropriate in alignment with QA/QC procedures
Description	Performance of the treatment technology – less than 1 CFU of E.Coli / 100 ml of safe water
Source of data	Water Quality Tests Reports/18/ issued by the third-party labs
Value(s) applied	Acceptable

		<table><tr><th>Date</th><th>No.</th><th>Result</th></tr><tr><td>20/08/2024</td><td>10th Water Quality Test</td><td>Pass</td></tr><tr><td>22/11/2024</td><td>11st Water Quality Test</td><td>Pass</td></tr><tr><td>24/02/2025</td><td>12nd Water Quality Test</td><td>Pass</td></tr><tr><td>23/05/2025</td><td>13rd Water Quality Test</td><td>Pass</td></tr><tr><td>22/08/2025</td><td>14th Water Quality Test</td><td>Pass</td></tr><tr><td>24/11/2025</td><td>15th Water Quality Test</td><td>Pass</td></tr></table>	Date	No.	Result	20/08/2024	10th Water Quality Test	Pass	22/11/2024	11st Water Quality Test	Pass	24/02/2025	12nd Water Quality Test	Pass	23/05/2025	13rd Water Quality Test	Pass	22/08/2025	14th Water Quality Test	Pass	24/11/2025	15th Water Quality Test	Pass
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	22/08/2025	14th Water Quality Test	Pass																				
	24/11/2025	15th Water Quality Test	Pass																				
	Measurement methods and procedures	Water Quality Test																					
	Monitoring frequency	Quarterly lab tests undertaken by the third-party lab Means of Verification by VVB: The water test results were furnished to VVB and based on the submitted evidence. CME confirmed that they had also undertaken the tests during the current verification in the accredited labs as per the methodology to compare the results of current lab. Moreover, the methodology has the following monitoring requirements as the applied version 3.1 of TPDDTEC under monitoring parameter. verification approach of water quality was undertaken by the two-step approach: I. Review of all water quality reports issued by the third-party lab; II. Confirmation of the water quality sample collection through the interviews of village heads/users to confirm that the representative of third party collected the samples and villages head (primarily the custodian of boreholes) was informed or not. Therefore, the verification of water quality test results through the review of 'Water Quality Reports' does not fall under the acceptance sample as 100% records were verified. <table><tr><td>Data / Parameter:</td><td>Quality of the treated water</td></tr><tr><td>Data unit:</td><td>As appropriate in alignment with QA/QC procedures</td></tr><tr><td>Description:</td><td>Performance of the treatment technology - less than 1 Colony Forming Unit (CFU) of E.Coli /100 ml of safe water</td></tr><tr><td>Source of data:</td><td>Water quality test</td></tr><tr><td>Monitoring frequency:</td><td>Quarterly</td></tr><tr><td>QA/QC procedures:</td><td>Transparent data analysis and reporting</td></tr><tr><td>Any comment:</td><td></td></tr></table> Therefore, CME also monitored the other parameters e.g pH, hard metals etc, the tests	Data / Parameter:	Quality of the treated water	Data unit:	As appropriate in alignment with QA/QC procedures	Description:	Performance of the treatment technology - less than 1 Colony Forming Unit (CFU) of E.Coli /100 ml of safe water	Source of data:	Water quality test	Monitoring frequency:	Quarterly	QA/QC procedures:	Transparent data analysis and reporting	Any comment:								
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Source of data:	Water quality test																						
Monitoring frequency:	Quarterly																						
QA/QC procedures:	Transparent data analysis and reporting																						
Any comment:																							

		were also undertaken in the accredited third-party lab. The protocol from the collection of samples till the results are provided in the Annexure of the report and the same was verified during the onsite assessment by interviewing the personnel responsible during the current verification and during the on-site assessment in the current verification.	
	QA/QC procedures	<u>Means of Verification by VVB:</u> The water test results were furnished to VVB and based on the submitted evidence VVB concluded that all the tests meet the requirements of methodology. Verification team also confirmed that the seasonal variance is also factored into the sampling of water quality tests as quarterly samples are considered, which demonstrates the coverage of representative season/s.	
	Purpose of data	Criteria of methodology - To test water quality for safety of human consumption.	
	Additional comment	-	

Relevant SDG Indicator	Value obtained in this monitoring period
Data/parameter	$U_{p,y}$
Unit	Percentage
Description	Usage rate in project scenario p during year y
Source of data	Annual usage Surveys
Value(s) applied	100 %
Measurement methods and procedures	Field Study
Monitoring frequency	Annually, The Usage Survey for the third monitoring period was included in the Project Survey. There was no individual questionnaire for Usage Survey. The second Project Survey was carried out between 25/07/2024-01/08/2024, which surveyed the usage rate between 25/07/2023 to 24/07/2024. The result from the Usage Survey is 100% of the surveyed households using the project borehole, then 100% is used to calculate emission reductions of this monitoring period.
QA/QC procedures	Transparent data analysis and reporting
Purpose of data	Calculation of CO ₂ emission impact and SDG 6 impact
Additional comment	$U_{p,y}$ is based on accumulative active connections at the end of the monitoring period, since it's third MP and all the devices were found working, no drop-off registered, hence $U_{p,y}$ is set to 1. Means of Verification by VVB: The survey results furnished to VVB and it was witnessed that no drop-off cases found. VVB also undertaken the acceptance sampling and found the similar trend during the onsite inspection.

Relevant SDG Indicator	SDG 13 / Climate Change Mitigation measured as reduced tCO ₂ e and SDG 6 / Indicator 6.1.1		
Data/parameter	$N_{p,y}$		
Unit	Persons.days		
Description	Number of persons. days consuming water supplied by project scenario p through year y		
Source of data	Grids D17-23 and E17-23 of sheet SDG13 of Excel spreadsheet "1-SDG Outcomes Calculation Form-4th MP"		
Value(s) applied	VPA No.	Persons.days 25/07/2024 to 24/07/2025	Persons.days 25/07/2025 to 31/12/2025
	01	12,342,991	5,450,226
	02	11,401,933	5,064,362
	03	11,664,962	5,135,631
	04	12,542,731	5,508,501
	05	12,183,883	5,408,490
	06	11,767,717	5,232,888

	Measurement methods and procedures	Means of Verification: Baseline and monitoring surveys Individual participants were selected from the borehole user data base using the random sampling process outlined in the monitoring plan. Sample sizes are in line with the Gold Standard requirements. VVB confirms based on the above-mentioned justification and verified by VVB during the site visit that no HHs are transferring to other methods of water treatment, so argument for not accounting the leakage is reasonable.																												
	Monitoring frequency	Biennially																												
	QA/QC procedures	Transparent data analysis and reporting																												
	Purpose of data	Calculation of leakage																												
	Additional comment	No leakage																												
			<table border="1"> <thead> <tr> <th>Relevant SDG Indicator</th> <th>SDG 6 indicator 6.1.1</th> </tr> </thead> <tbody> <tr> <td>Data/parameter</td> <td>Hygiene campaigns</td> </tr> <tr> <td>Unit</td> <td>Not Applicable</td> </tr> <tr> <td>Description</td> <td>Hygiene campaigns carried out among project technology users</td> </tr> <tr> <td rowspan="7">Source of data</td> <td> <table border="1"> <thead> <tr> <th>Date</th> <th>Location</th> </tr> </thead> <tbody> <tr> <td>03/08/2024</td> <td>Hygiene campaigns held at Kabeza village (VPA04)</td> </tr> <tr> <td>07/08/2024</td> <td>Hygiene campaigns held at Karama I village (VPA03) and Kakirenzi I village (VPA02)</td> </tr> <tr> <td>26/08/2024</td> <td>Hygiene campaigns held at Shori village (VPA05)</td> </tr> <tr> <td>03/06/2025</td> <td>Hygiene campaigns held at Cyinkene village (VPA06)</td> </tr> <tr> <td>18/06/2025</td> <td>Hygiene campaigns held at Kabarama I village (VPA01)</td> </tr> <tr> <td>11/08/2025</td> <td>Hygiene campaigns held at Bugari village (VPA04)</td> </tr> </tbody> </table> </td> </tr> <tr> <td>Value(s) applied</td> <td colspan="2"> Completed Means of Verification: Through the review of videos and the interviews with the user during the onsite by asking the questions whether such campaign was undertaken or not. Moreover, the methodology of survey was also confirmed by the verification team during the onsite assessment. It was confirmed by the HHs that Hygiene campaign included the sanitation amenities, equipment, and infrastructure, as well as to the behaviour in respect to regular and correct use of such </td> </tr> </tbody> </table>		Relevant SDG Indicator	SDG 6 indicator 6.1.1	Data/parameter	Hygiene campaigns	Unit	Not Applicable	Description	Hygiene campaigns carried out among project technology users	Source of data	<table border="1"> <thead> <tr> <th>Date</th> <th>Location</th> </tr> </thead> <tbody> <tr> <td>03/08/2024</td> <td>Hygiene campaigns held at Kabeza village (VPA04)</td> </tr> <tr> <td>07/08/2024</td> <td>Hygiene campaigns held at Karama I village (VPA03) and Kakirenzi I village (VPA02)</td> </tr> <tr> <td>26/08/2024</td> <td>Hygiene campaigns held at Shori village (VPA05)</td> </tr> <tr> <td>03/06/2025</td> <td>Hygiene campaigns held at Cyinkene village (VPA06)</td> </tr> <tr> <td>18/06/2025</td> <td>Hygiene campaigns held at Kabarama I village (VPA01)</td> </tr> <tr> <td>11/08/2025</td> <td>Hygiene campaigns held at Bugari village (VPA04)</td> </tr> </tbody> </table>	Date	Location	03/08/2024	Hygiene campaigns held at Kabeza village (VPA04)	07/08/2024	Hygiene campaigns held at Karama I village (VPA03) and Kakirenzi I village (VPA02)	26/08/2024	Hygiene campaigns held at Shori village (VPA05)	03/06/2025	Hygiene campaigns held at Cyinkene village (VPA06)	18/06/2025	Hygiene campaigns held at Kabarama I village (VPA01)	11/08/2025	Hygiene campaigns held at Bugari village (VPA04)	Value(s) applied	Completed Means of Verification: Through the review of videos and the interviews with the user during the onsite by asking the questions whether such campaign was undertaken or not. Moreover, the methodology of survey was also confirmed by the verification team during the onsite assessment. It was confirmed by the HHs that Hygiene campaign included the sanitation amenities, equipment, and infrastructure, as well as to the behaviour in respect to regular and correct use of such
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Unit	Not Applicable																													
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Source of data	<table border="1"> <thead> <tr> <th>Date</th> <th>Location</th> </tr> </thead> <tbody> <tr> <td>03/08/2024</td> <td>Hygiene campaigns held at Kabeza village (VPA04)</td> </tr> <tr> <td>07/08/2024</td> <td>Hygiene campaigns held at Karama I village (VPA03) and Kakirenzi I village (VPA02)</td> </tr> <tr> <td>26/08/2024</td> <td>Hygiene campaigns held at Shori village (VPA05)</td> </tr> <tr> <td>03/06/2025</td> <td>Hygiene campaigns held at Cyinkene village (VPA06)</td> </tr> <tr> <td>18/06/2025</td> <td>Hygiene campaigns held at Kabarama I village (VPA01)</td> </tr> <tr> <td>11/08/2025</td> <td>Hygiene campaigns held at Bugari village (VPA04)</td> </tr> </tbody> </table>	Date	Location	03/08/2024	Hygiene campaigns held at Kabeza village (VPA04)	07/08/2024	Hygiene campaigns held at Karama I village (VPA03) and Kakirenzi I village (VPA02)	26/08/2024	Hygiene campaigns held at Shori village (VPA05)	03/06/2025	Hygiene campaigns held at Cyinkene village (VPA06)	18/06/2025		Hygiene campaigns held at Kabarama I village (VPA01)	11/08/2025	Hygiene campaigns held at Bugari village (VPA04)														
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	18/06/2025	Hygiene campaigns held at Kabarama I village (VPA01)																												
11/08/2025	Hygiene campaigns held at Bugari village (VPA04)																													
Value(s) applied	Completed Means of Verification: Through the review of videos and the interviews with the user during the onsite by asking the questions whether such campaign was undertaken or not. Moreover, the methodology of survey was also confirmed by the verification team during the onsite assessment. It was confirmed by the HHs that Hygiene campaign included the sanitation amenities, equipment, and infrastructure, as well as to the behaviour in respect to regular and correct use of such																													

	amenities. It also included the behaviour aspects that prevents infections from water-related diseases. Which confirms the laid down requirements of methodology for 'Hygiene Campaign'. During the assessment the verification team was also informed that the users did not suffer from any water borne illness after the use of borehole. This demonstrates the effectiveness of the campaign carried out by the CME.	
Measurement methods and procedures	Questionnaires and interviews are used in hygiene campaigns to assess hygienic handling of clean water.	
Monitoring frequency	Annually	
QA/QC procedures		
Purpose of data	Assessment of achievement of SDG 6	
Additional comment	-	
Relevant SDG Indicator	SDG 6 (Clean Water and Sanitation) Indicator 6.1.1 – Proportion of population using safely managed drinking water services	
Data/parameter	P _{p,y}	
Unit	Number	
Description	Number of persons consuming water within the project area during year y	
Source of data	Project survey	
Value(s) applied	VPA No.	P_{p,y} 25/07/2024 to 24/07/2025
		P_{p,y} 25/07/2025 to 31/12/2025
	01	34,387
	02	32,119
	03	32,868
	04	34,779
	05	34,353
	06	32,783
	Total	201,289
Measurement methods and procedures	The data is obtained from WMC of each borehole as per Document "Sworn Statement"	
	Means of Verification: The records verified by the VVB and also verified with the users during the onsite assessment, the sample 'Sworn Statement' also verified as part of acceptance sampling.	
	Monitoring frequency	At least biennially.
	QA/QC procedures	-
	Purpose of data	Calculations of CO ₂ e emission reductions
	Additional comment	-
Relevant SDG Indicator	SDG 5	

Data/parameter	T _{p,y}
Unit	Hour
Description	Time spent to fetch and purify water by women and girls per household per day in the project scenario during year y
Source of data	Grid C169 of Excel spreadsheet "Data Recording Form for Project Survey_Rwanda_MP3rd" Monitoring Survey
Value(s) applied	25/07/2024 to 24/07/2025: 0.33 25/07/2025 to 31/12/2025: 0.22
Measurement methods and procedures	The data is obtained by project survey through sampling survey as per the applied methodology as well as "Standard: Sampling and surveys for CDM project activities and programmes of activities (Version 09.0)" and "Guidelines for sampling and surveys for CDM project activities and programmes of activities (Version 04.0)". The project survey was conducted by the CME and ARDE from 25/07/2024 to 01/08/2024 and the result is 0.33 and 25/07/2025 to 31/12/2025 is 0.22.
Monitoring frequency	The project survey was conducted by the CME and ARDE from 25/07/2024 to 01/08/2024 and the result is 0.33. At least biennially frequency as per the registered monitoring plan.
QA/QC procedures	Transparent data analysis and reporting
Purpose of data	Calculation of percentage reduction of time spent to fetch and purify water by women and girls
Additional comment	-

Relevant SDG Indicator	SDG 3
Data/parameter	I _{p,y}
Unit	Percentage
Description	Waterborne illness incidence in the project scenario during year y
Source of data	Grid C168 of Excel spreadsheet "Data Recording Form for Project Survey_Rwanda_MP3rd"
Value(s) applied	25/07/2024 to 24/07/2025: 0 25/07/2025 to 31/12/2025: 0
Measurement methods and procedures	The data is obtained by project survey through sampling survey as per the applied methodology as well as "Standard: Sampling and surveys for CDM project activities and programmes of activities (Version 09.0)" and "Guidelines for sampling and surveys for CDM project activities and programmes of activities (Version 04.0)". The project survey was conducted by the CME and ARDE from 25/07/2024 to 01/08/2024 and the result is 0. The 3rd Project Survey was conducted by ARDE from 02/01/2026-06/01/2026 and the result is 0. Means of Verification: The records verified by the VVB and concluded that figure is correct. The VVB also verified from the onsite inspection from the sampled HHs and it was concluded that no such cases identified. Moreover,

		all the water quality tests undertaken by the third party also substantiates it.
	Monitoring frequency	At least biennially.
	QA/QC procedures	Transparent data analysis and reporting
	Purpose of data	Calculation of reduction of waterborne illness incidence
	Additional comment	-
Findings	CL#01, CL#02, CL#03 & CL#04 were raised and closed.	
Conclusion	The adequacy and compliance of the monitoring plan in the Monitoring report was found as per the requirements laid by the monitoring methodology and the recent version of GS4GG POA/VPA-DDs. The information flow (from data generation, aggregation, to recording, calculation and reporting) is already included under respective parameter above. The verification team has verified all the data and collected evidence as per the required monitoring frequency and found to be correct and appropriate meeting the requirements of the applied methodology and recent version of GS4GG POA/VPA-DDs.	

E.3.4.3. Implementation of sampling plan

Means of verification	<u>Description of staff conducting monitoring activities</u>				
	All surveys are administered by trained staffs of CME, local to the area and conversant in the local dialects to ensure that responses were consistent and not biased by any regional language barriers. Field staffs were provided with an English version of the questionnaire to provide for the greatest possible standardisation of responses. It was explained to the respondents that the answers to the survey are analysed as a group and that no individual names are used in this analysis; the reason to take peoples' names and addresses is so that they can be found again to conduct further monitoring tasks. The staff conducting the monitoring activities were interviewed at the time of physical assessment and found that staff is well versed and has proper knowledge of conducting the monitoring activities.				
	<u>Maintenance of total water Beneficiaries</u>				
	Accurate records were kept and stored both electronically and in paper format. The agreement signed with the end users were verified by the verification team and also the users were interviewed during the physical assessment by the VVB.				
	The data base in the following template as reproduced in MR was verified by the VVB during physical assessment. The users IDs were further verified through interviewing the HHs during the physical assessment undertaken.				
	The following details are recorded in the project database, refer the template below:				
	<table><tr><td>Bore hole ID</td></tr><tr><td>Rehabilitation Date</td></tr><tr><td>End date of MR1</td></tr><tr><td>Days out of work</td></tr></table>	Bore hole ID	Rehabilitation Date	End date of MR1	Days out of work
Bore hole ID					
Rehabilitation Date					
End date of MR1					
Days out of work					

Days of work
Hand Pump Type
Geographic Coordinates
province
district
province district cell
cell
Village
Number of households
Number of persons

Filed Tests

Complying the VPA-DDs requirements, the following field studies were performed:

- a. Water Consumption Field Test (Surveyed by CME and verified by the VVB)/9/
- b. Water quality tests by the third-party labs/9/.

These surveys and studies have been made available to the VVB and are the verification is summarized below.

Water Quality Tests (WQTs)

The quality of the treated water is assessed to ensure that it fits human consumption. The standard used to assess the water quality meets requirements of the applied methodology. It is conducted quarterly, with the first test conducted within 6 months of the project start date. At least once every two years, the water quality test will be performed in accredited laboratories. The samples were selected by Simple Random Sampling. We used equation (1) of "Guidelines for sampling and surveys for CDM project activities and programmes of activities (Version 04.0)/6/" to calculate the sample size. The result is 18.78. Furthermore, according to paragraph 14 of "Standard: Sampling and surveys for CDM project activities and programmes of activities (Version 09.0)", a minimum sample size of 30 shall be chosen. CME chose 35 samples out of 251 boreholes to ensure the precision. The water quality tests were undertaken on 20/08/2024, 22/11/2024, 24/02/2025, 23/05/2025, 22/08/2025 and 24/11/2025 in the third-party lab 'IPRC Kigali Engineering Laboratory' during this monitoring period, which is a national accredited laboratory/18/. The detailed results of each test have been submitted to VVB and VVB found that the tests met the water quality in terms of E_{coli} and other parameters i.e. (Arsenic Arsenic and Fluorides, had metals, ph inter alia). The third party was appointed by the CME to undertake the test the samples were also drawn by the third party and carried out the tests as per the WHO standard. The labs test reports furnished by CME to VVB and VVB based on the local expertise concluded that the tests were adequately undertaken by the third party including the accredited lab for the current verification. VVB observed that the samples were taken higher than the desired samples and the sampling results met the desired confidence/precision as reported in the previous section. Since none of the sample tested for the WCFT failed for E_{coli} and other parameters therefore the required precision was sufficiently met.

Verification approach of water quality was undertaken by the two-step approach:

- I. Review of all water quality reports issued by the third-party lab;

- II. Confirmation of the water quality sample collection through the interviews of village heads/users to confirm that the representative of third party collected the samples and villages head (primarily the custodian of boreholes) was informed or not.

Therefore, the verification of water quality test results through the review of 'Water Quality Reports' doesn't fall under the acceptance sample as 100% records were verified.

Usage Survey - The Usage Survey is included in the Project Survey; there is no individual questionnaire for Usage Survey. The second Project Survey applicable to this monitoring period was carried out between 25/07/2024-01/08/2024, which surveyed the usage rate between 25/07/2023 to 24/07/2024. The 3rd Project Survey was carried out between 02/01/2026-06/01/2026, which is for the period from 25/07/2025 to 31/12/2025 during the current monitoring period. The result from the usage survey is 100% used to calculate emission reduction. VVB undertaken the acceptance sampling test to verify the appropriateness of CME's survey and based on the VVB's sampling it can be concluded that the survey undertaken by the CME were adequate as no variation found between the VVB's survey and CME's survey. The user survey was considered by taking a total of 160 samples and multistage sampling approach as per the CDM sampling guidelines, since the usage was found 100% therefore VVB concluded that the desired confidence/precision was adequately met.

Water Consumption Filed Tests (WCFT)

The second WCFT was conducted from 16/05/2024 to 26/05/2024, which is for the period from 25/07/2023 to 24/07/2025 to compute the ERs in the current monitoring period. As per the methodology, results of each household were capped at 7L. Hence the result of $Q_{p,y}$ is 6.45L. The result of WCFT is recorded in Excel spreadsheet "Data Recording Form for 2nd WCFT_Rwanda", and has been submitted too. We used multi-stage sampling. We calculated through Equation (33) of "Guidelines for sampling and surveys for CDM project activities and programmes of activities (Version 04.0)" and concluded that 8 was the minimum number of boreholes should be sampled to satisfy the 95/10 rule of applied methodology. As we have randomly chosen 8 villages of 8 boreholes, the 95/10 confidence has been met. The 3rd WCFT was conducted from 01/12/2025 to 19/12/2025, which is for the period from 25/07/2025 to 31/12/2025 to compute the ERs in the current monitoring period. As per the methodology, results of each household were capped at 7L. Hence the result of $Q_{p,y}$ is 6.81L. The result of WCFT is recorded in Excel spreadsheet "Data Recording Form for 3rd WCFT_Rwanda", and has been submitted too. sampling approach as per the CDM sampling guidelines, since the capped value is applied therefore VVB concluded that the desired Confidence/Precision was adequately met.

The sampling approach was verified and found it was complying the CDM sampling requirements pertaining to the multi-stage sampling. Please also note that in the multi-stage sampling, if the required samples are monitored higher than the minimum sample size calculated and all samples were selected, it is considered that the desired confidence/precession is met.

Project Survey - Sampling according to "Standard: Sampling and surveys for CDM project activities and programmes of activities (Version 09.0)/6/ and "Guidelines for sampling and surveys for CDM project activities and programmes of activities (Version 04.0)" to conduct Project Survey. CME calculated that 8 was the minimum number of boreholes should be sampled to satisfy the 95/10 rule of applied methodology being a mean parameter. Hence, CME randomly chose 8 boreholes covering the all 6 VPAs to maintain the representativeness. CME also randomly chose 20 user households from each borehole, i.e. 160 user households in 8 boreholes. Data collected during the project surveys explores the following characteristics:

General information - Name, address, telephone number etc.
Household socio-demographic information.
Water use characteristics.

The 1st Project Survey was carried out between 25/07/2022 to 25/08/2022. The 2nd Project Survey was carried out between 25/07/2024-01/08/2024, which is for the period from 25/07/2023 to 24/07/2025 to compute the SDGs during the 4th monitoring period under this verification. The 3rd Project Survey was carried out between 02/01/2026-06/01/2026, which is for the period from 25/07/2025 to 31/12/2025 to compute the SDGs during the 4th monitoring period under this verification and results furnished to the VVB.

The project survey was considered by taking a total of 160 samples and multistage sampling approach as per the CDM sampling guidelines, the CME randomly chose 8 boreholes from all the VPAs and 20 end users from each borehole therefore VVB concluded that the desired Confidence/Precision was adequately met.

Hygiene campaign – CME undertaken annually. The campaign held six hygiene campaigns in six villages from six VPA respectively during this monitoring period. The information is shown below:

Date	Location
15/11/2022	Hygiene campaign held at Mbuye sector, Nyakarekare cell Bereshi village
15/11/2022	Hygiene campaign held at Mugina sector, Kabugondo cell, Mataba sud village
21/11/2022	Hygiene campaign held at Byimana sector, Kamusenyi cell Kabusheshe village
21/11/2022	Hygiene campaign held at Kibirizi sector, Rwotso cell Seruhembe I village
22/11/2022	Hygiene campaign held at Ruhango sector, Munini cell Kabaja village
22/11/2022	Hygiene campaign held at Kinazi sector, Kinazi cell Kacyiru II village
18/10/2023	Hygiene campaigns held at BUHORO village and BUTARE village
24/10/2023	Hygiene campaigns held at BYEMVENI village and GITWIKO II village
31/10/2023	Hygiene campaigns held at MIRAMBI I village and BUNYOGOMBE village
13/02/2024	Hygiene campaigns held at Busozi village and Gasharu village
27/02/2024	Hygiene campaigns held at Ngurukizi I village and Rubumba village
03/08/2024	Hygiene campaigns held at Kabeza village (VPA04)
07/08/2024	Hygiene campaigns held at Karama I village (VPA03) and Kakirenzi I village (VPA02)
26/08/2024	Hygiene campaigns held at Shori village (VPA05)
03/06/2025	Hygiene campaigns held at Cyinkene village (VPA06)
18/06/2025	Hygiene campaigns held at Kabarama I village (VPA01)
11/08/2025	Hygiene campaigns held at Bugari village (VPA04)

The detailed description of the hygiene campaigns during this monitoring period has been provided in a separate document.

The above hygiene campaigns are for the from the start of the crediting period till this monitoring period. As the start date of the project was 26/11/2021, the first hygiene campaign should be conducted between 26/11/2021 to 25/11/2022. We held six hygiene campaigns in six villages from six VPAs respectively from 15/11/2022 to 22/11/2022, which satisfies the requirement. The second hygiene campaign should be conducted between 26/11/2022 to 25/11/2023. Then CME held six hygiene campaigns in six villages from six VPAs respectively from 18/10/2023 to 31/10/2023, which satisfies the requirement. The third hygiene campaign should be conducted between 26/11/2023 to 25/11/2024. CME held six hygiene campaigns in six villages from six VPAs respectively in February and August 2024, the recent campaign from June-August 2025 which satisfies the requirement. Four of them are in this monitoring period.

	Each hygiene campaign was held with many habitants of villages. The agenda of campaign was: - The campaign was started with greeting from village's leader. - Self-introduction of village administration committee leaders and local boreholes rehabilitation project staff. - Presentation of prepared module related to Hygiene and Sanitation campaign done by an expert from the borehole's rehabilitation project. - Questions, wishes and recommendations proposed by habitants. - Community work of cleaning on boreholes. The videos of the hygiene campaigns were furnished to the VVB and based on the review of videos, reconfirmation by HHs during the onsite inspection, it has been concluded that that the CME adhered the requirements of hygiene campaign.
Findings	CL#02 & CL#03 were raised and closed.
Conclusion	Verification team confirms that survey/sampling records to be acceptable in line with the requirements of the Sampling Standard and Guidance.

E.3.5. Compliance with the calibration frequency requirements for measuring instruments

Means of verification	N/A as water quality tests were undertaken in third party labs. No other parameter requires the instrumental monitoring.
Findings	N/A
Conclusion	N/A

E.3.6. Assessment of data and calculation of emission reductions or net removals

E.3.6.1. Calculation of baseline GHG emissions or baseline net GHG removals by sinks

Means of verification

Emissions reductions were calculated using the results of the, Usage Surveys and baseline survey, water quality test inter alia, taking into consideration values for NRB and leakage.

The monitoring has been carried out in accordance with the monitoring plan contained in the recent version of GS4GG POA/VPA-DDs/2/.

The verification team assessed the monitoring techniques and each monitoring value in the monitoring report; and provide a short summary on the verification of every parameter listed in the monitoring plan and used for calculation of emission reductions.

The monitored parameters of the project are in line with the recent version of GS4GG POA/VPA-DDs and the applied GS4GG methodology /6/. Brief descriptions of the monitored parameters are listed below:

The CME submitted all the relevant data and parameters required to be monitored to the verification team along with the monitoring report. All the parameters required to be monitored as per the recent version of GS4GG VPA DDs/PoA DD have been monitored and reported in the monitoring report. Verification team has reviewed the calculation worksheet /3/ for the emission reduction calculation for the monitoring period as indicated at the cover page (including both the days). Verification team confirms that the formulas, conversions, aggregations and factors are consistent with the monitoring plan in the POA/VPA DDs. The reported data was checked as follows:

- All the necessary data and all the parameters required to be monitored in the recent version of GS4GG VPA-DDs //14/, /2// were reviewed to ensure accuracy.

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

VPA No.	B _{b,y} Applicable for 25/07/2024 to 24/07/2025 in the MP	B _{b,y} Applicable for 25/07/2025 to 31/12/2025 in the MP
01	31,581	14,723
02	29,173	13,681
03	29,846	13,873
04	32,092	14,881
05	31.174	14.610

06	30,109	14,136
Total	183,973	85,904

Parameter	Description	Unit	Value			Verification Remarks																										
B _{b,y}	Quantity of fuel consumed in baseline scenario b during the year in tons	ton	<table><tr><td>VPA No.</td><td>B_{b,y}⁴</td><td>B_{b,y}⁵</td></tr><tr><td>01</td><td>31,565</td><td>14,723</td></tr><tr><td>02</td><td>29,520</td><td>13,681</td></tr><tr><td>03</td><td>30,153</td><td>13,873</td></tr><tr><td>04</td><td>32,223</td><td>14,881</td></tr><tr><td>05</td><td>31,456</td><td>14,610</td></tr><tr><td>06</td><td>30,460</td><td>14,136</td></tr><tr><td>Total</td><td>185,377</td><td>85,904</td></tr></table>			VPA No.	B _{b,y} ⁴	B _{b,y} ⁵	01	31,565	14,723	02	29,520	13,681	03	30,153	13,873	04	32,223	14,881	05	31,456	14,610	06	30,460	14,136	Total	185,377	85,904	Formula in line with TPDDTEC, V3.1/6/ Calculated value presented in ER spreadsheet/3/, VVB confirms that the calculation complies with the methodology as well as the approach registered in VPA-DDs.		
VPA No.	B _{b,y} ⁴	B _{b,y} ⁵																														
01	31,565	14,723																														
02	29,520	13,681																														
03	30,153	13,873																														
04	32,223	14,881																														
05	31,456	14,610																														
06	30,460	14,136																														
Total	185,377	85,904																														
f _{NRB,b,y}	Fraction of biomass used that can be established as non – renewable biomass in the baseline scenario b during year y	fraction	0.9682			f _{NRB} determined by complying the tool 30 of CDM, refer the assessment above regarding appropriateness of value.																										
NCV _{b,fuel}	Net calorific value of fuels used in the baseline scenario	TJ/ton	0.0156			- IPCC 2006 default for firewood - The Value is in line with PoA DD/VPA-DDs																										
EF _{b,fuel,co2}	CO2 emission factor of fuels used in the baseline scenario	tCO ₂ /TJ	112.00			- IPCC 2006 default for firewood - The Value is in line with PoA DD/VPA-DDs																										
EF _{b,fuel,non co2}	Non-CO2 emission factor of fuels used in the baseline scenario	tCO ₂ /TJ	9.46			- IPCC 2006 default for firewood - The Value is in line with PoA DD/VPA-DDs																										

Baseline Emission Reductions:

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

(2)

⁴ Applicable for 25/07/2024 to 24/07/2025 in the MP⁵ Applicable for 25/07/2025 to 31/12/2025 in the MP

Where:

BE_{b,y} Baseline emissions during year yB_{b,y} Quantity of fuel consumed in baseline scenario b during the year in tons; the applied value as per calculation in this section above;f_{NRB,b,y} Fraction of biomass used that can be established as non-renewable biomass in baseline scenario b during year y; the applied value is 96.82% as per section D.1 of the MR.EF_{b,fuel,CO2} CO₂ emission factor of fuels used in the baseline scenario; the applied value is 112 as per section D.1 of the MR.EF_{b,fuel,non-CO2} Non-CO₂ emission factor of fuels used in the baseline scenario; the applied value is 9.46 as per section D.1 of the MR.NCV_{b,fuel} Net calorific value of fuels used in the baseline scenario; the applied value is 0.0156 as per section D.1 of the MR.As a result, BE_{b,y} is shown as follows:

Period	25/07/2024 to 24/07/2025	25/07/2025 to 31/12/2025
VPA No.	BE _{b,y}	BE _{b,y}
01	58,083	27,079
02	53,655	25,161
03	54,892	25,516
04	59,023	27,368
05	57,334	26,871
06	55,376	25,999
Total	338,363	157,996

SDG 3: Good health and well-being

The outcome of SDG 3 is quantified as the reduction of waterborne illness incidence compared to baseline scenario. The waterborne illness incidence in the baseline scenario is 38.45% according to Baseline Survey and this has been validated by the validating VVB.

SDG 5: Gender equality

The outcome of SDG 5 is quantified as percentage reduction of time spent to fetch and purify water by women and girls. The time spent to fetch and purify water by women and girls per household in the baseline scenario is 0.90 hour according to Baseline Survey and this has been validated by the validating VVB.

SDG 6: Clean Water and Sanitation

The outcome of SDG 6 is quantified as number of persons consuming safe water supplied by the project, the direct outcome is calculated, section E.2 of MR and also verified by the VVB in previous sections.

Findings

Nil

Conclusion

The verification team confirms the following:

- 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 factors and other reference values have been correctly applied. It can be confirmed that the baseline calculation is correct overall.
- The ER calculation sheet provided is clear, transparent and the calculations provided in the sheet are reproducible.

Hence, the baseline emission in the monitoring report for the monitoring period (i.e., 496,357 tCO₂e) is verified to be correct.

E.3.6.2. Calculation of project GHG emissions or actual net GHG removals by sinks

Means of verification	Project Scenario
	SDG 13: Climate Action Project Scenario Fuel Consumption Calculation $B_{p,y} = (1 - C_j) * N_{p,y} * W_{p,y} * (Q_{p,rawboil,y} + Q_{p,cleannoil,y}) \quad (3)$ Where: $B_{p,y}$ Quantity of fuel f consumed in project scenario p during the year y in tons C_j Percentage of users of project technology who were already in baseline scenario using a non-boiling safe water supply; the applied value is 0 as per section D.1 of MR. $N_{p,y}$ Number of person.days consuming water supplied by project scenario p through year y; the applied value as per Section D.2 of MR. $W_{p,y}$ Quantity of fuel in tons required to treat 1 litre of water using technologies representative of baseline scenario b in year y as per baseline water boiling Test; the applied value is 0.0004 as per Section D.1 of MR. $Q_{p,rawboil,y}$ Quantity of raw water boiled in the project scenario p per person per day; the applied value is 0 as per Section D.2 of MR. $Q_{p,cleannoil,y}$ Quantity of safe water boiled in the project scenario p per person per day in year y; the applied value is 0 as per Section D.2 of MR. As a result, $B_{p,y} = 0$ t Project Emission Reductions: $PE_{p,y} = B_{p,y} * ((f_{NRB,p,y} * EF_{p,fuel,CO2}) + EF_{p,fuel,non-CO2}) * NCV_{p,fuel} \quad (4)$ Where: $BE_{b,y}$ Baseline emissions during year y $PE_{p,y}$ Project emissions during year y $B_{p,y}$ Quantity of fuel consumed in project scenario p during the year y in tons; the applied value is 0 as per calculation in this section above; $f_{NRB,p,y}$ Fraction of biomass used that can be established as non-renewable biomass in project scenario p during year y; the applied value is 0.9682 as per section D.1 of MR. $EF_{b,fuel,non-CO2}$ Non-CO₂ emission factor of fuels used in the baseline scenario; the applied value is 9.46 as per section D.1 of MR. $EF_{p,fuel,CO2}$ CO₂ emission factor of fuels used in the project scenario; the applied value is 112 as per section D.1 of MR. $EF_{p,fuel,non-CO2}$ Non-CO₂ emission factor of fuels used in the project scenario; the applied value is 9.46 as per section D.1 of MR. $NCV_{p,fuel}$ Net calorific value of fuels used in the project scenario; the applied value is 0.0156 as per section D.1 of MR. ER_y Overall emission reductions achieved by the project activity during year y $U_{p,y}$ Cumulative usage rate for technologies in project scenario p during year y, based on cumulative installation rate and drop off rate; the applied value is 100% as per section D.2 of MR.

$LE_{p,y}$ Leakage from project scenario p during year y; the applied value 0 as per section D.2 of MR.

As a result, $PE_{p,y} = 0 \text{ tCO}_2\text{e}$

SDG 3: Good health and well-being

The outcome of SDG 3 is quantified as the reduction of waterborne illness incidence compared to baseline scenario, which is calculated as follows:

$$I_{r,y} = I_b - I_{p,y} \quad (5)$$

Where:

$I_{r,y}$ Reduction of waterborne illness incidence in year y

I_b Waterborne illness incidence in the baseline scenario; the applied value is 38.45% as per section D.1 of MR.

$I_{p,y}$ Waterborne illness incidence in the project scenario during year y; the applied value is 0 as per section D.2 of MR.

As a result, $I_{r,y} = 38.45 \%$

SDG 5: Gender equality

The outcome of SDG 5 is quantified as percentage reduction of time spent to fetch and purify water by women and girls, which is calculated as follows:

$$Tr_{r,y} = (T_b - T_{p,y})/T_b \quad (6)$$

Where:

$Tr_{r,y}$ Percentage reduction of time spent to fetch and purify water by women and girls in year y

T_b Time spent to fetch and purify water by women and girls per household per day in the baseline scenario; the applied value is 0.90 as per section D.1 of MR.

$T_{p,y}$ Time spent to fetch and purify water by women and girls per household per day in the project scenario during year y; the applied value is 0.44 as per section D.2 of MR.

As a result, $Tr_{r,y} = 63.33\%$ from 25/07/2024 to 24/07/2025, $Tr_{r,y} = 75.56\%$ from 25/07/2025 to 31/12/2025

SDG 6: Clean Water and Sanitation

The outcome of SDG 6 is quantified as number of persons consuming safe water supplied by the Project, which is calculated as follows:

$$P_y = P_{p,y} * (1 - C_j) * U_{p,y} \quad (7)$$

Where

P_y Number of additional persons consuming safe water supplied by the Project compared to the baseline scenario during year y

$P_{p,y}$ Number of persons consuming water within the project area during year y; the applied value as per section D.2 of MR.

C_j Percentage of users of project technology who were already in baseline scenario using a non-boiling safe water supply; the applied value is 0 as per section D.1 of MR.

$U_{p,y}$ Cumulative usage rate for technologies in project scenario p during year y; the applied value is 100% as per section D.2 of MR.

As a result, P_y is shown as follows:

Period	25/07/2024 to 24/07/2025	25/07/2025 to 31/12/2025
VPA No.	P_y	P_y
01	34,101	34,611
02	31,852	32,533
03	32,595	33,012

	04	34,490	34,805
	05	34,067	34,330
	06	32,510	33,252
	Total	199,615	202,543
	$P_{p,y}$ i.e Number of persons consuming water within the project area during year y, is sourced from the database and the sworn statements by chairman of Water Management Committee of each borehole/9/, which was founded to manage the borehole. The same was verified during the onsite audit. The same information is recorded/documented in the database maintained by the CME.		
Findings	CL#01 was raised and closed.		
Conclusion	The verification team confirms that: a) The complete data set for the monitoring parameters was available as mentioned in the monitoring plan in the PoA/VPA-DDs for the duration of monitoring period. b) The cross checks were undertaken for all the parameters indicated in the respective sections and were found complying with the requirements of the monitoring plan of the registered PoA/VPA-DDs. c) Appropriate methods and formulae for calculating baseline emission, project emissions and leakage have been followed. d) The claimed emission reductions are free from material errors, omissions or misstatements, with a reasonable level of assurance.		

E.3.6.3. Calculation of leakage GHG emissions

Means of verification	As per the applied methodology and the registered VPA DD, the leakage is expected to be 0, which can be ignored. However, to confirm that leakage can be deemed very low, the below described leakage assessment regarding the potential leakage sources (listed in the methodology TPDDTEC, v 3.1 pages 15) shall be completed every two years. During this monitoring period, $LE_{p,y}$ is estimated as follows:	
	Potential Influence Factor	Interpretation
	The displaced baseline technologies are reused outside the project boundary in place of lower emitting technology or in a manner suggesting more usage than would have occurred in the absence of the project.	The displaced baseline technology is three stones. It has not been reused outside the project boundary because it still be used for cooking after the implementation of the project.
	Non-project users who previously used lower emitting energy sources use the non-renewable biomass or fossil fuels saved under the project activity.	The costs of low emitting water purification technologies, such as filtration and chlorination, are much higher than boiling with wood fuel. Users of these technologies are not price sensitive. Therefore, the implementation of the VPA does not lead these users to boil water with wood fuel, even if the price of wood fuel becomes cheaper because of the reduction of demand caused by the project.
	The project significantly impacts the NRB fraction within an area where other CDM or VER project activities account for NRB fraction in their baseline scenario.	Considering that the VPA only saves 183,973 tons (Bb,y) of biomass for the period from 25/07/2024 to 24/07/2025 and 85,904 tons of biomass for the period from 25/07/2025 to 31/12/2025 while the total amount of above-ground

		biomass of Rwanda is 75 million tons, the VPA does not affect NRB fraction.
	The project population compensates for loss of the space heating effect of inefficient technology by adopting some other form of heating or by retaining some use of inefficient technology.	The space heating effect of boiling water is negligible. Therefore, it is highly unlikely that some other form of heating will be adopted for compensating the space heating effect of boiling water.
	By virtue of promotion and marketing of new technology with high efficiency, the project stimulates substitution within households who commonly used a technology with relatively lower emissions, in cases where such a trend is not eligible as an evolving baseline.	The project does not promote any new technology with high efficiency. It does not stimulate people to boil water.
	In conclusion, $LE_{p,y} = 0$ VVB confirms based on the above-mentioned justification and also verified by VVB during the site visit that no HHs are transferring to other methods of water treatment, so argument for not accounting the leakage is reasonable.	
Findings	Nil	
Conclusion	Verification team concludes that there is no leakage for this monitoring period.	

E.3.6.4. Summary of calculation of GHG emission reductions or net GHG removals by sinks

Means of verification	Emissions reductions were calculated using the results of the, Usage Surveys and baseline survey, water quality test inter alia, taking into consideration values for NRB and leakage.				
	The monitoring has been carried out in accordance with the monitoring plan contained in the recent version of GS4GG POA/VPA-DDs/2/.				
	The verification team assessed the monitoring techniques and each monitoring value in the monitoring report; and provide a short summary on the verification of every parameter listed in the monitoring plan and used for calculation of emission reductions.				
	During 25/07/2024 to 24/07/2025:				
	SDG	SDG Impact	GS ID	Baseline estimate	Project estimate
	13	Reduce emission from water boiling by non-renewable biomass	GS 11098	58,083	0
			GS 11133	53,655	0
			GS 11134	54,892	0
			GS 11135	59,023	0
			GS 11136	57,334	0
			GS 11137	55,376	0
		Total		338,363	0
	3	Reduce the incidence of		38.45%	0
					38.45%

		waterborne illness within the project area				
	5	Reduce the time spent to fetch and purify water by women and girls		0.90 hour	0.33 hour	63.33%
	6	Provide safe water to local residents	GS 11098	286	34,387	34,101
			GS 11133	267	32,119	31,852
			GS 11134	273	32,868	32,595
			GS 11135	289	34,779	34,490
			GS 11136	286	34,353	34,067
			GS 11137	273	32,783	32,510
			Total	1,674	201,289	199,615
	During 25/07/2025 to 31/12/2025:					
	SDG	SDG Impact	GS ID	Baseline estimate	Project estimate	Net benefit
	13	Reduce emission from water boiling by non-renewable biomass	GS 11098	27,079	0	27,079
			GS 11133	25,161	0	25,161
			GS 11134	25,516	0	25,516
			GS 11135	27,368	0	27,368
			GS 11136	26,871	0	26,871
			GS 11137	25,999	0	25,999
			Total	157,994	0	157,994
	3	Reduce the incidence of waterborne illness within the project area		38.45%	0	38.45%
	5	Reduce the time spent to fetch and purify water by women and girls		0.90 hour	0.22 hour	75.56%
	6	Provide safe water to local residents	GS 11098	290	34,901	34,611
			GS 11133	273	32,806	32,533

			GS 11134	277	33,289	33,012
			GS 11135	292	35,097	34,805
			GS 11136	288	34,618	34,330
			GS 11137	279	33,531	33,252
			Total	1,699	204,242	202,543
Findings	Nil					
Conclusion	The verification team confirms the following: •The summary table in the MR has been filled correctly, and the values are in line with therelated emissions reduction spreadsheet /03/. • Each SDG impact is calculated as per the VPA-DD /02/ and the selected methodology /6/.					

E.3.6.5. Comparison of actual GHG emission reductions or net GHG removals by sinks with estimates in included VPA

Means of verification	The verification team has checked whether the MR includes a comparison of actual values of SDG Impacts of the monitoring period with the estimations in the VPA-DD /02/. Section E.5 of the MR, v 2/1/ includes a comparison of the calculated SDG Impacts with the ex-ante calculated values in the VPA-DD /02/.			
	SDG	GS ID	Values estimated in ex ante calculation of approved PDD for this monitoring period	Actual values⁶ achieved during this monitoring period
	13	GS 11098	84,115 tCO ₂ e	85,162 tCO ₂ e
		GS 11133	84,115 tCO ₂ e	78,816 tCO ₂ e
		GS 11134	84,115 tCO ₂ e	80,408 tCO ₂ e
		GS 11135	84,115 tCO ₂ e	86,391 tCO ₂ e
		GS 11136	84,115 tCO ₂ e	84,205 tCO ₂ e
		GS 11137	84,115 tCO ₂ e	81,375 tCO ₂ e
	3	GS 11098	18.45%	38.45% / 38.45%
		GS 11133	18.45%	38.45% / 38.45%

⁶ Whenever emission reductions are capped, both the original and capped values used for calculations must be transparently reported. Use brackets to denote original values.

		GS 11134	18.45%	38.45% / 38.45%
		GS 11135	18.45%	38.45% / 38.45%
		GS 11136	18.45%	38.45% / 38.45%
		GS 11137	18.45%	38.45% / 38.45%
	5	GS 11098	44.44%	63.33% / 75.56%
		GS 11133	44.44%	63.33% / 75.56%
		GS 11134	44.44%	63.33% / 75.56%
		GS 11135	44.44%	63.33% / 75.56%
		GS 11136	44.44%	63.33% / 75.56%
		GS 11137	44.44%	63.33% / 75.56%
	6	GS 11098	32,726 persons	34,101 / 34,611 persons
		GS 11133	32,726 persons	31,852 / 32,533 persons
		GS 11134	32,726 persons	32,595 / 33,012 persons
		GS 11135	32,726 persons	34,490 / 34,805 persons
		GS 11136	32,726 persons	34,067 / 34,330 persons
		GS 11137	32,726 persons	32,510 / 33,252 persons
Findings	No CAR/CL is raised in this section.			
Conclusion	The estimated SDG Impact and the actual SDG Impact achieved for the monitoring period are correctly reported in the section E.5 of MR /01/.			

E.3.6.6. Remarks on difference from estimated value in included VPA

Means of verification	The actual value of SDG 3 is higher than estimated value due to several reasons: a) clean water supplied by the project has a good quality, which has been proven by the water quality tests; b) local people have developed a better healthy habit by the convenience of getting clean water and hygiene campaigns. The actual value of SDG 5 is higher than estimated value because estimated value ex-ante was a conservative estimate, whereas monitored data is an accurate representation by sampling. The actual values of SDG 6 are a little bit higher than the ex-ante estimated values in VPA 01, 04 and 05 because the ex-antes values are from a general conservative estimation, whereas monitored data is from the sum of the actual data from each project borehole. The same was also verified by the VVB during the onsite assessment wherein
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	the SDG 6 was reconfirmed and the number of personal were found consistent with the database. The actual value of SDG 13 is (496,357 -504,690)/504,690=1.65% lower than estimated value, that is a reasonable margin of error and assessed conservative. When the CME estimated the emission reduction ex-ante, the number of consuming days of the boreholes (average) was assumed 347 for every 365 days. Since this monitoring period is 525 days, the number of consuming days of the boreholes (average) should be assumed to 499 (347/365*525). Due to the well and continuous maintenance by the CME, the actual average number of consuming days of the boreholes was 513 during this monitoring period. Therefore, all the VPAs have higher consuming days than the estimated. If the consuming working days were 513 instead of 499, other conditions are the same as the ones used for the ex-ante estimation in the registered VPA-DD, the ex-ante estimation of each VPA would be 86,475 tCO₂e. Hence, the actual values in all the VPAs in this monitoring period are conservative. <table><tr><th>VPA</th><th>In approved PDD (with 499 working days)</th><th>Actual value in this monitoring period</th><th>In PDD (with 513 working days)</th></tr><tr><td>01</td><td>84,115 tCO₂e</td><td>85,162 tCO₂e</td><td>86,475 tCO₂e</td></tr><tr><td>02</td><td>84,115 tCO₂e</td><td>78,816 tCO₂e</td><td>86,475 tCO₂e</td></tr><tr><td>03</td><td>84,115 tCO₂e</td><td>80,408 tCO₂e</td><td>86,475 tCO₂e</td></tr><tr><td>04</td><td>84,115 tCO₂e</td><td>86,391 tCO₂e</td><td>86,475 tCO₂e</td></tr><tr><td>05</td><td>84,115 tCO₂e</td><td>84,205 tCO₂e</td><td>86,475 tCO₂e</td></tr><tr><td>06</td><td>84,115 tCO₂e</td><td>81,375 tCO₂e</td><td>86,475 tCO₂e</td></tr></table>	VPA	In approved PDD (with 499 working days)	Actual value in this monitoring period	In PDD (with 513 working days)	01	84,115 tCO ₂ e	85,162 tCO ₂ e	86,475 tCO ₂ e	02	84,115 tCO ₂ e	78,816 tCO ₂ e	86,475 tCO ₂ e	03	84,115 tCO ₂ e	80,408 tCO ₂ e	86,475 tCO ₂ e	04	84,115 tCO ₂ e	86,391 tCO ₂ e	86,475 tCO ₂ e	05	84,115 tCO ₂ e	84,205 tCO ₂ e	86,475 tCO ₂ e	06	84,115 tCO ₂ e	81,375 tCO ₂ e	86,475 tCO ₂ e
VPA	In approved PDD (with 499 working days)	Actual value in this monitoring period	In PDD (with 513 working days)																										
01	84,115 tCO ₂ e	85,162 tCO ₂ e	86,475 tCO ₂ e																										
02	84,115 tCO ₂ e	78,816 tCO ₂ e	86,475 tCO ₂ e																										
03	84,115 tCO ₂ e	80,408 tCO ₂ e	86,475 tCO ₂ e																										
04	84,115 tCO ₂ e	86,391 tCO ₂ e	86,475 tCO ₂ e																										
05	84,115 tCO ₂ e	84,205 tCO ₂ e	86,475 tCO ₂ e																										
06	84,115 tCO ₂ e	81,375 tCO ₂ e	86,475 tCO ₂ e																										
Findings	No CAR/CL is raised in this section.																												
Conclusion	The verification team has determined the SDG Impacts achieved during this monitoring period with the estimated value and there was no increase observed in SDG#13.																												

E.3.7. Assessment of reported Safeguarding Principles

Means of verification	According to Section B.7 of Design Certified PDD, safety of water disinfectants used in the VPA should be monitored. But during this monitoring period, the water quality meets the relevant requirements, so we have not used water disinfectants. Hence no parameter needs to be monitored in this section.
Findings	N/A
Conclusion	N/A

E.3.8. Stakeholder Inputs & Grievance Mechanism

Means of verification	Stakeholder consultation report (SCR/2/) verified by the VVB which was approved by GS during project design review, stakeholders of Category A-G of "Stakeholder Consultation and Engagement Requirements"/4/. It was concluded that the relevant stakeholders have been identified and invited and validated by the validating VVB during the design certification. According to Section B.1.1 and B.1.3 of the SCR available on the GS registry along with the validation reports of the VPAs, various inviting methods were applied for the stakeholder consultation meeting. For the convenience of villagers, an invitation letter in both English and local language was sent to them through broadcast in villages. For some local people, invitation letters were sent to them as formal invitation. Other invitees were invited by email. According to B.1.5 of the SCR, other means and methods to provide feedback for those who are not able to join the consultation meeting are as follows: The first way is to use the phone and they could report problems concerning the project by phone. The following phone numbers were left to participants: 0728684787/0788684787 & 0788443155 & 0788665992. They agreed to converge all related problems they could report them to ARDE/KUBAHO team members. The second way is to put books in the offices of villages and users could report comments in that books. The representatives of ARDE will check the books every month to see the problems reported and find solutions with users.
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	The third way is to visit physically the boreholes location and to discuss with their managers and users. The forth way is to report through email. The following email addressed will be also used for inquiry or comment on the project Iceberg: Mr. Ji BAO baoji@icebergchina.com ARDE: Mr. David BAZIRANKENDE bazirankendebdavid@gmail.com According to Section E of the SCR, a linkage (http://www.icebergchina.com/contents/86/233.html) has been created for providing feedback. An email was sent to stakeholders to invite them to provide feedback. There is a continuous input/grievance mechanism in place for beneficiaries to be able to give feedback on the project. No grievance received during the monitoring period as confirmed by the CME during the physical assessment and also the same has been confirmed by the end users during the physical assessment.
Findings	No CAR/CL is raised in this section.
Conclusion	In Section G.1 of MR, CME listed all input and grievance mechanism and verified by the VVB during the onsite assessment. Various ways to ensure representation from all the categories under each of the 6 VPAs for inputs and grievances and approved by the GS as all the 6 VPAs were design certified and included through the VVB validation. The Continuous Input Grievance Expression Process Books/9/ have been put in all the villages where the VPA has been implemented. In addition, phone No. and emails address have been left for timely connection. Section G.1 of the MR has been revised accordingly. A photo of a Continuous Input Grievance Expression Process Book has been submitted to VVB, VVB found that households are aware of the feedback mechanism and no grievance raised during the current verification.

SECTION F. Internal quality control

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The draft verification report prepared by team leader is reviewed by an independent technical reviewer before requesting for issuance for this verification period to confirm the internal procedures established by 4KES are duly followed and the verification report/opinion is reached in an objective manner and complies with the applicable GS requirements. The technical review is conducted by the technical reviewer qualified as per the 4KES procedures established for the qualification of CDM/GS personnel as per EB guidelines and GS guidelines.

The independent technical reviewer may approve or reject the draft verification report. The findings may be identified even at this stage, which needs to be satisfactorily resolved, before the request for issuance is submitted to GS. The final decision is taken by the Head of the VVB. The technical reviewer approves the final version of the report.

The final approval is authorized by the Managing Director, 4KES once the report is approved by the Head of DOE/DOE Manager.

SECTION G. Verification opinion

>> The verification team confirms that the evidence is of sufficient quantity, appropriate quality and reliable. The reported values, notation, units and sources in the monitoring report for the monitoring parameter have been cross checked with the emission reduction sheet and monitoring report. During verification and interviews, the data submitted by CME was cross verified with the values mentioned in the emission reduction sheet /03/ and monitoring report /01/. The procedure for data monitoring, recording, transfer, and compilation were also verified and found in compliance with the monitoring plan as mentioned in the PoA-DD /14/ and VPA-DD /02/.

Evidence (Documents/interviews) referred for verification of individual monitoring parameter and fixed parameters are defined in section D.3.4 above. It is confirmed by the assessment team that the reported SDG Impacts have been conservatively calculated. A list of referred documents for verification is also included in Appendix 3 of this report.

Based on the information seen and evaluated we confirm that the implementation of the PoA/VPA has resulted in 496,357 tCO₂e emission reductions during monitoring period 25/07/2024 to 31/12/2025 (first and last days are included).

Sustainable Development Goals Targeted	SDG Impact	VPA No.	Amount Achieved (25/07/2024-24/07/2025)	Amount Achieved (25/07/2025-31/12/2025)	Units/ Products
SDG 13 Climate Action	Reduce emission from water boiling by non-renewable biomass	VPA01	58,083	27,079	VERs
		VPA02	53,655	25,161	
		VPA03	54,892	25,516	
		VPA04	59,023	27,368	
		VPA05	57,334	26,871	
		VPA06	55,376	25,999	
		Total	338,363	157,994	
SDG 3 – Good Health and Well-Being	Reduce the incidence of waterborne illness within the project area		38.45%	38.45%	Percentage
SDG 5 – Gender Equality	Reduce the time spent to fetch and purify water by women and girls		63.33%	75.56%	Percentage
SDG 6 – Clean Water and Sanitation	Provide safe water to local residents	VPA01	34,101	34,611	Number of persons
		VPA02	31,852	32,533	
		VPA03	32,595	33,012	
		VPA04	34,490	34,805	
		VPA05	34,067	34,330	

CDM-PoA-VCR-FORM

		VPA06	32,510	33,252	
		Total	199,615	202,543	

SECTION H. Certification statement

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4K Earth Science Pvt. Ltd. has been contracted by 'Guangzhou Iceberg Environmental Consulting Services Co., Ltd.' to undertake independent verification and certification for the SDGs reported from the Guangzhou Iceberg Environmental Consulting Services Co., Ltd., GS 11098, GS 11133, GS 11134, GS 11135, GS 11136, GS 11137 for the monitoring period in the Monitoring Report Version 01 (first version)/1/ dated 14/01/2026:

VPA No.	Start date	End date
VPA01	25/07/2024	31/12/2025
VPA02	25/07/2024	31/12/2025
VPA03	25/07/2024	31/12/2025
VPA04	25/07/2024	31/12/2025
VPA05	25/07/2024	31/12/2025
VPA06	25/07/2024	31/12/2025

The verification is based on the PoA-DD /14/ & VPA-DD /02/ and the monitoring report, version 2/1/ for this PoA /02/. Our verification approach was based on the requirements as defined under the GS4GG.

The management of the 'Guangzhou Iceberg Environmental Consulting Services Co., Ltd.' is the coordinating/Managing Entity and it is responsible for inclusion of VPAs under this PoA. The calculation and determination of SDGs from the PoA is the responsibility of the management of the 'Guangzhou Iceberg Environmental Consulting Services Co., Ltd.'. The development and maintenance of records and reporting procedures are in accordance with the Monitoring Report Version 02 dated 10/02/2026.

It is our responsibility to express an independent verification opinion on the calculation of SDGs from the PoA for the monitoring period 25/07/2024 to 31/12/2025 (including both dates) based on the reported SDGs in the Final Monitoring Report Version 02 dated 10/02/2026 for the same period.

In our opinion the GHG emissions reductions reported for the VPA are fairly stated in the Monitoring Report (final) Version 02 dated 10/02/2026. 4KES based on outcome of verification activities, certifies in writing that, during the monitoring period 25/07/2024 to 31/12/2025 (including both days), the registered GS VPA achieved the verified amount of 496,357 tCO₂e reductions in anthropogenic emissions by sources of greenhouse gases that would not have occurred in the absence of the VPA.

The Verified and reported SDGs impacts during the monitoring period 25/07/2024 to 31/12/2025 (Including both dates) is stated below:

Monitoring Period: 25/07/2024 to 31/12/2025 (including both dates)

Sustainable Development Goals Targeted	SDG Impact	VPA No.	Amount Achieved (25/07/2024-24/07/2025)	Amount Achieved (25/07/2025-31/12/2025)	Units/ Products
SDG 13 Climate Action	Reduce emission from water boiling by non-renewable biomass	VPA01	58,083	27,079	VERs
		VPA02	53,655	25,161	
		VPA03	54,892	25,516	
		VPA04	59,023	27,368	
		VPA05	57,334	26,871	
		VPA06	55,376	25,999	
		Total	338,363	157,994	

SDG 3 – Good Health and Well-Being	Reduce the incidence of waterborne illness within the project area		38.45%	38.45%	Percentage
SDG 5 – Gender Equality	Reduce the time spent to fetch and purify water by women and girls		63.33%	75.56%	Percentage
SDG 6 – Clean Water and Sanitation	Provide safe water to local residents	VPA01	34,101	34,611	Number of persons
		VPA02	31,852	32,533	
		VPA03	32,595	33,012	
		VPA04	34,490	34,805	
		VPA05	34,067	34,330	
		VPA06	32,510	33,252	
		Total	199,615	202,543	

Product Vintages for SDG#13

VPA No.	Start Dates	End Dates	VERs (tCO ₂ e)
VPA01	25/07/2024	31/12/2024	25,461
	01/01/2025	31/12/2025	59,701
VPA02	25/07/2024	31/12/2024	23,520
	01/01/2025	31/12/2025	55,296
VPA03	25/07/2024	31/12/2024	24,062
	01/01/2025	31/12/2025	56,346
VPA04	25/07/2024	31/12/2024	25,873
	01/01/2025	31/12/2025	60,518
VPA05	25/07/2024	31/12/2024	25,133
	01/01/2025	31/12/2025	59,072
VPA06	25/07/2024	31/12/2024	24,274
	01/01/2025	31/12/2025	57,101
		Total	496,357

Appendix 1. Abbreviations

CAR	Corrective Action Request
CME	Coordinating & Managing Entity
CL	Clarification Request
CO ₂	Carbon dioxide
CO _{2e}	Carbon dioxide equivalent
CRF	Carbon Rights Form
EB	Executive Board
ER	Emission Reduction
FT	Fuel Test
FAR	Forward Action Request
GHG	Greenhouse Gas(es)
GPS	Global Positioning System
GS	Gold Standard
HH	Household
IPCC	Intergovernmental Panel on Climate Change
MP	Monitoring Plan
MR	Monitoring Report
NGO	Non-governmental Organization
NRB	Non-renewable biomass
OSV	On-site visit
POA DD	Programme of Activity Design Document
PP	Project proponent
PTD	Project Technology Days
QA/QC	Quality Assurance/Quality Control
SC	Sustain Cert
SD	Sustainable Development
SDG	Sustainable Development Goals
UNFCCC	United Nations Framework Convention on Climate Change
VPA	Voluntary Project Activity
VVB	Validation and Verification Body
VER	Voluntary Emission Reduction
VVS	Validation and Verification Standard for project activities

Appendix 2. Competence of team members and technical reviewers

<u>Certificate of Competence</u>							
Name	☒ Mr. ☐ Ms.	Sanjay Kandari					
Qualification Procedure	Fulfil the requirement as per the appointment of personnel procedure of 4KES for Validation and Verification of CDM/VCS/GS/GCC/GHG Projects.						
Appointed to work as:							
	Validator/ Verifier	Team Leader	Trainee	Technical Expert	Technical Reviewer	Financial Expert	Approver
<i>Appointed</i>	Yes	Yes	No	Yes	Yes	No	No
<i>Appointed Date</i>	23-06-2025						
Authorized to work as Technical Expert for:							
<i>Authorized Technical Area</i>	Sectoral Scope		TA Code		Technical Area within the scope		
	Energy industries (renewable - / non-renewable sources)		1.1		Thermal energy generation		
	Energy industries (renewable - / non-renewable sources)		1.2		Renewables		
	Energy distribution		2.1		Energy distribution		
	Energy demand		3.1		Energy demand		
	Waste handling and disposal		13.1		Solid waste and wastewater		
	Waste handling and disposal		13.2		Manure		
Authorized to work as Local Expert for:							
<i>Country/Countries</i>	India						
Compliance check by:				Swati S Acharya			

<u>Certificate of Competence</u>							
Name	☒ Mr. ☐ Ms.	Haguma Jean Claude					
Qualification Procedure	Fulfil the requirement as per the appointment of personnel procedure of 4KES for Validation and Verification of CDM/VCS/GS/GCC/GHG Projects.						
Appointed to work as:							
	Validator/ Verifier	Team Leader	Trainee	Technical Expert	Technical Reviewer	Financial Expert	Approver
<i>Appointed</i>	No	No	No	No	No	No	No
<i>Appointed Date</i>	23-06-2025						
Authorized to work as Technical Expert for:							
<i>Authorized Technical Area</i>	Sectoral Scope		TA Code		Technical Area within the scope		
	-		-		-		
Authorized to work as Local Expert for:							
<i>Country/Countries</i>	Rwanda						

<u>Compliance check by:</u>	Swati S Acharya
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Certificate of Competence

Name	☒ Mr. ☐ Ms.	Ma Paa Puratchikkannal					
Qualification Procedure		Fulfils the requirement as per the appointment of personnel procedure of 4KES for Validation and Verification of CDM/VCS/GS/GCC/GHG Projects.					
Appointed to work as:							
	Validator/ Verifier	Team Leader	Trainee	Technical Expert	Technical Reviewer	Financial Expert	Approver
Appointed	Yes	Yes	No	Yes	Yes	Yes	Yes
Appointed Date	23-06-2025						
Authorized to work as Technical Expert for:							
Authorized Technical Area	Sectoral Scope		TA Code		Technical Area within the scope		
	Energy industries (renewable - / non-renewable sources)		1.1		Thermal energy generation		
	Energy industries (renewable - / non-renewable sources)		1.2		Renewables		
	Energy demand		3.1		Energy demand		
	Construction		6.1		Construction		
	Waste handling and disposal		13.1		Solid waste and wastewater		
	Waste handling and disposal		13.2		Manure		
Agriculture		15.1		Agriculture			
Authorized to work as Local Expert for:							
Country/Countries	India and Sri Lanka						
<u>Compliance check by:</u>							
Swati S Acharya							

Appendix 3. Documents reviewed or referenced

S. No.	Name of document
/1/	/1.1/ Monitoring Report, Version 01 dated 14/01/2026 /1.2/ Monitoring Report, Version 02 dated 10/02/2026
/2/	- VPA Final VPA-DDs Version 08 dated 14/03/2022 - Validated Stakeholder Consultation Reports available on GS registry
/3/	- ER/SDG spreadsheets corresponding to MR - Sampling workbook demonstrating the CDM sampling requirements for multi-stage sampling titled 3-Data Recording Form for WCFT_Rwanda_4th MP
/4/	- GS4GG Principles & Requirements, Version 2.1 dated 31 Jan 2025 https://globalgoals.goldstandard.org/100-principles-and-requirements/ - GS4GG-Stakeholder Consultation and engagement Requirements Guidelines, v 2.1 dated 14/06/2022 https://globalgoals.goldstandard.org/102-par-stakeholder-consultation-requirements/ - GS4GG 'Community Services Activity-Requirements', v1.2 https://globalgoals.goldstandard.org/standards/201_V1.2_AR_Community-Services-Activity-Requirements.pdf - Safeguarding Principles & Requirements, v2.1 https://globalgoals.goldstandard.org/103-par-safeguarding-principles-requirements/ - Gold Standard for Global Goals - Programme of Activity Requirements, Version 3.0. https://globalgoals.goldstandard.org/107-par-programme-of-activity-requirements/ - GS Monitoring report form Version 1.1 https://www.goldstandard.org/project-developers/standard-documents
/5/	WHO criteria for Water Quality (Rules & regulations)
/6/	- Gold Standard Methodology: "Technologies and Practices to displace decentralized thermal energy consumption" Version 03.1 https://globalgoals.goldstandard.org/407-ee-ics-technologies-and-practices-to-displace-decentralized-thermal-energy-tpddtec-consumption/ "Tool for the demonstration and assessment of additionality (Version 7)" - GS Validation & Verification Standard, Version 2 - SITE VISIT AND REMOTE AUDIT REQUIREMENTS AND PROCEDURES, dated 30/05/2023 https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-01-v7.0.0.pdf - Updated [2018] Environment Impact Assessment and Regulations, 2005 [G.N. No 349/2005] "Standard for Sampling and Surveys for CDM Project Activities and Programme Activities" version 09 "Guidelines for Sampling and Surveys for CDM Project Activities and Programme Activities, Version 04.0 - CDM Validation & Verification Standard, version 03 for POAs
/7/	Declaration confirming that there is no double counting
/8/	Technical specification manual of boreholes
/9/	- Project database Rwanda: VPA 2_Data Recording Form for 2nd Project Survey_Rwanda 3_Data Recording Form for 2nd WCFT_Rwanda 4-Data Recording Form for 4th Usage Survey_Rwanda 5_Data Recording Form for 3rd Project Survey_Rwanda_4th MP 6_Data Recording Form for 3rd WCFT_Rwanda 7_Maintenance_Log_25072024-31122025.xlsx

	- 8_Borehole list for 4th Usage Survey - 9_Sampling process for 4th Usage Survey - 10_Borehole list for WQT - 11_Sampling process for WQT - 12_Borehole list for 3rd Project Survey and WCFT - 13_Sampling process for 3rd Project Survey and WCFT - 27_Rural Drinking Water Quality Management Framework 2019 - 30_Photos of opinion books - 32_4th Usage Survey Form-Rwanda borehole - 33_3rd Project Surveys Questionnaire-Rwanda borehole - 34_3rd Water Consumption Field Test-Rwanda borehole - Grievance Expression Process Books
/10/	Baseline surveys as part of VPA validation
/11/	Sworn Agreements signed between CME and user - 28_072023-072025 Sworn Statement-Rwanda Borehole - 29_072025-072027 Sworn Statement-Rwanda Borehole
/12/	Project Survey Reports/forms
/13/	Water Testing Procedures (Confirmed through Onsite Assessment)
/14/	Final PoA-DD, Version 5.0 dated 15/09/2021
/15/	Sampling and sample size sheet includes screen shot of randomizers etc
/16/	2006 IPCC Guidelines for National Greenhouse Gas Inventories volume 2, chapter 1 https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_1_Ch1_Introduction.pdf
/17/	WASH related documents
/18/	Water Quality Test (WQT) Reports issued by, 'Water Quality Testing Laboratory' Lab IPRC Kigali Engineering Laboratory - 21_10th Water Quality Test - 22_11th Water Quality Test - 23_12th Water Quality Test - 24_13th Water Quality Test - 25-14th Water Quality Test - 26_15th Water Quality Test
/19/	http://onlinelibrary.wiley.com/doi/10.1002/2014WR016770/pdf 5 https://washdata.org/data
/20/	Reports of Hygiene campaign undertaken - 14_Hygiene campaigns held at Cyinkene village - 15_Hygiene campaigns held at Kabarama I village - 16_Hygiene campaigns held at Kabeza village - 17_Hygiene campaigns held at Kakirenzi I village - 18_Hygiene campaigns held at Karama I village - 19_Hygiene campaigns held at Shori village - 20_Hygiene campaigns held at Bugari village
/21/	Maintenance Log of Boreholes - 31_Maintenance Log_25072024-31122025
/22/	Video evidence of project surveys by the surveyors

Appendix 4. Clarification requests, corrective action requests and forward action requests

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

FAR ID	01	Section no.	GS Review	Date: 30/01/2026
Description of FAR				
CME shall respond to following FARs raised during the previous verification and how the corrective actions undertaken by them addresses the issue in this verification.				
The PD shall ensure that the next usage survey covers the question of whether the household has obtained access to an alternative water purification technology, such as household water filters, or access to other boreholes, since the start of the project. If such exist, the PD shall clarify if access to such technology is granted under another carbon credit project. If this is the case, the PD shall clarify how double claiming is avoided. The VVB shall verify this claim. While responding the finding CME is requested to share the GS review forms used during the 3rd Performance Assessment of this batch of issuance. The form is required to verify whether any additional FAR has been issued.				
Project participant response				Date: 10/02/2026
The CME has put the question of “Has the household obtained access to an alternative water purification technology, such as household water filters, or access to other boreholes, since the start of the project?” in 4th Usage Survey and 3rd Project Survey during this monitoring period. Please refer to Question 3 of submitted document “Data Recoding Form for 4th Usage Survey_Rwanda_4th MP” and “Data Recording Form for 3rd Project Survey_Rwanda_4th MP”. According to the result of the 4th Usage Survey and 3rd Project Survey, there is no access to an alternative water purification technology. There is no any additional FAR has been issued. Please refer to the document “42_GS11098_11133_11134_11135_11136_11137_PERR_Rd 2_final” for GS review forms used during the 3rd Performance Assessment.				
Documentation provided by project participant				
42_GS11098_11133_11134_11135_11136_11137_PERR_Rd 2_final				
VVB assessment				Date: 13/02/2026
CME responded that they included question of “Has the household obtained access to an alternative water purification technology, such as household water filters, or access to other boreholes, since the start of the project?” in Project Survey during this monitoring period. Please refer to Question 3 of submitted document” Data Recoding Form for Project Survey_Rwanda_MP3rd”. According to the result of the Usage Survey, there is no access to an alternative water purification technology. The response submitted by the CME was verified by VVB by reviewing the survey forms and reproducing the same question during the onsite assessment as part of the HHs interview. Moreover, it was physically verified that the access to other water purification service, borehole etc, were verified and found that there were no other water source other project devices. FAR is closed.				

Table 2: CL from this verification

CL ID	01	Section no.	Cover Page of MR	Date: 30/01/2026
Description of CL				
1. Last annual reports submitted to the GS shall also be submitted to VVB for the verification of periodic monitoring and appropriateness of the submitted information. 2. The declaration to double counting shall also be submitted to VVB. Also, the CME shall clarify the underlying source of the number of households included in the VPAs have no double counting with other institutions or any other project in the vicinity on the Sworn Statement.				
Project participant response				Date: 10/02/2026
1. Last annual report has been submitted as document "35_T-PerfCert_v3.0-Project-Annual-Report-GS10959-2025-4" this time. 2. The declaration to double counting has been submitted as document "43_Statement about no double counting" this time. And it has been confirmed by the Chairman of Water Management Committee of each borehole in the Sworn Statements.				
Documentation provided by project participant				
35_T-PerfCert_v3.0-Project-Annual-Report-GS10959-2025-4				
43_Statement about no double counting				
29_072025-072027 Sworn Statement-Rwanda Borehole				
VVB assessment				Date: 13/02/2026
1. The annual report has been submitted to the project verification team and found that it was uploaded to GS registry. The annual report includes all the information correctly and verified with the MR, survey forms and the previous approved verifications. 2. Declaration for double counting has been submitted. Also, independent research carried out by the VVB by reviewing the other GHG project's websites to confirm whether any safe water project is registered. The websites of VERRA, CDM, VERRA, UCR, Cercarbono and other GHG websites were searched, and it was found that no other GHG project/VPA/POA on similar technology is registered in South Province of Rwanda.				

CL ID	02	Section no.	Table 1 of MR	Date: 30/01/2026
Description of CL				
The SDG #05 claimed under table 1 of the MR has two different values for two vintages, rationale of differing this value for the 2 vintages is not sufficiently clear/demonstrated. PP must provide a rationale for the same.				
Project participant response				Date: 10/02/2026
The monitoring frequency is for this parameter is once every two years. The project start date is 26/11/2021. The 2nd Project Survey was conducted from 25/07/2024 to 01/08/2024 with the valid period from 25/07/2023 to 24/07/2025, so the validity period extends at most until 25/11/2025. For this monitoring period, which lasts until 31/12/2025, 3rd project survey was conducted, covering the period from 25/07/2025 to 31/12/2025. Therefore, there are two different values corresponding to the two vintages.				
Documentation provided by project participant				
Revised MR				
VVB assessment				Date: 10/02/2026
The justification and the rationale were assessed reasonable and therefore accepted as 2 vintage were computed based in the two survey results. Finding is closed now.				

CL ID	03	Section no.	Section A.1, B.1 of MR	Date: 30/01/2026
Description of CL				
1. CME shall clarify whether any new rehabilitation/installation of boreholes since the last verification, though it was confirmed by the VVB by comparing the previous issued performance assessment that no new borehole has been included in this monitoring period notwithstanding a statement to this effect shall also be part of the MR. 2. It has been stated in section B.1 of MR that functioning well to provide enough clean water to over 190,000 local people, though the actual numbers shall be reported being a monitored parameter.				
Project participant response				Date: 10/02/2026
1. There are 251 boreholes repaired in the project, no new repairs included during the current monitoring period. The clarification has been added in the Section B.1 of the revised MR. 2. There are 2 values under SDG06 of 2 vintages for this MP, here use the smaller one: In the monitoring period, the boreholes were maintained by the CME and VPA implementer, functioning well to provide enough clean water to over 199,615 local people.				
Documentation provided by project participant				
Revised MR				
VVB assessment				Date: 13/02/2026
1. The statement has been included in the revised MR that no new rehabilitation or installation was done in the current MP. Finding is closed now. 2. The justification and the rationale were assessed reasonable and therefore accepted as 2 vintages were computed based in the two survey results. The actual number of users/beneficiaries In terms of personnel have been added in the revised MR. Finding is closed now.				

CL ID	04	Section no.	Section C of MR	Date: 30/01/2026
Description of CL				
• CME shall clarify how the water samples are collected and sent to the lab, whether the sample is collected by the competent staff? • Training records may be furnished to VVB for verification for the staff/ ARDE who is responsible for undertaking the WCFT/usage survey/project surveys. • Photographic/video evidence of the WCFT, usage survey, project surveys, Hygiene campaigns shall be submitted. • Submit the caron waiver forms and the survey forms of the users which were visited by the VVB during the onsite audit as part of the auditing trail. • The users numbers in the 8 villages sampled shall also be reported who were part of the usage survey, WCFT and the project survey.				
Project participant response				Date: 10/02/2026
1. The water samples for testing are all collected on-site by laboratory professionals. The clarification has been added in Section C of the revised MR. 2. Please refer to document "36_Training record" submitted this time. 3. Please refer to document "41_Photos of PS, US&WCFT" submitted this time. Photos from the Hygiene campaigns have been attached at the end of each Hygiene campaign report for your reference. Please refer to documents 14-20 submitted last time. 4. Please refer to documents "37_Rwanda Borehole Carbon Transfer Agreement-site visited HHs", "38_3rd Water Consumption Field Test-Rwanda borehole-site visited HHs", "39_3rd Project Surveys Questionnaire-Rwanda borehole-site visited HHs" and "40_4th Usage Survey Form-Rwanda borehole-site visited HHs" submitted this time. 5. Please refer to documents "44_Namelist of 8 villages-sampling result for 4th US", "45_Sampling process for 4th US", "46_Namelist of 8 villages-sampling result for 3rd PS&WCFT" and "47_Sampling process for 3rd PS&WCFT" submitted this time.				
Documentation provided by project participant				
36_Training record 37_Rwanda Borehole Carbon Transfer Agreement-site visited HHs 38_3rd Water Consumption Field Test-Rwanda borehole-site visited HHs 39_3rd Project Surveys Questionnaire-Rwanda borehole-site visited HHs 40_4th Usage Survey Form-Rwanda borehole-site visited HHs 41_Photos of PS, US&WCFT 44_Namelist of 8 villages-sampling result for 4th US 45_Sampling process for 4th US 46_Namelist of 8 villages-sampling result for 3rd PS&WCFT 47_Sampling process for 3rd PS&WCFT				
VVB assessment				Date: 13/02/2026
1. The water samples for testing are all collected on-site by laboratory professionals, the clarification was confirmed also during the onsite assessment. The clarification has been added in Section C of the revised MR too and assessed correct by the verification team. Finding is closed now. 2. The document labelled as "36_Training record" submitted this time, which includes the training details. The training imparted were also verified during the site visit by interviewing the participants. Finding is closed. 3. The document labelled as "41_Photos of PS, US&WCFT" submitted Photos from the Hygiene campaigns have been attached at the end of each Hygiene campaign report and assessed evidencing the hygiene campaigns. Finding is closed.				

4. The document labelled as "37_Rwanda Borehole Carbon Transfer Agreement-site visited HHs", "38_3rd Water Consumption Field Test-Rwanda borehole-site visited HHs", "39_3rd Project Surveys Questionnaire-Rwanda borehole-site visited HHs" and "40_4th Usage Survey Form-Rwanda borehole-site visited HHs" submitted this time. The documents used as audit trails and the same were assessed correct and representing various requirements. The same will be referenced and reported in the main section of FVR. The finding is closed now.
5. The document labelled as "44_Namelist of 8 villages-sampling result for 4th US", "45_Sampling process for 4th US", "46_Namelist of 8 villages-sampling result for 3rd PS&WCFT" and "47_Sampling process for 3rd PS&WCFT" submitted has the details of the users in each village sampled by the CME. The details of the sampling will be part of the main sections of the FVR. The finding is closed after assessing the submitted documents.

CL ID	05	Section no.	Section E.1 of MR	Date: 30/01/2026
Description of CL				
In the derivation of the parameter 'Np,y' and 'Pp,y' CME shall report how and on what basis number of people and households within 1 km radius of the boreholes were included in the VPAs.				
Project participant response				Date: 10/02/2026
The number of people and households within 1 km radius of the boreholes was confirmed by the Chairman of Water Management Committee of each borehole in the Sworn Statements, and has been cross-checked in the usage survey and project survey by asking the end users: "How far is it from your home to the project borehole?" in the 4 th Usage Survey and 3 rd Project Survey. The distances are all within 1 km. The documents have been submitted last time.				
Documentation provided by project participant				
28_ 072023-072025 Sworn Statement-Rwanda Borehole				
29_ 072025-072027 Sworn Statement-Rwanda Borehole				
32_ 4th Usage Survey Form-Rwanda borehole				
33_ 3rd Project Surveys Questionnaire-Rwanda borehole				
VVB assessment				Date: 13/02/2026
As responded by the CME and verified during the onsite assessment that the number of persons within 1km of the borehole who only using the borehole as their water source was confirmed by the chairman of Water Management Committee of each borehole in the sworn statements, which was founded to manage the borehole. Every user has signed a sworn statement to clarify the number of users who only use the particular borehole. Project survey also included surveying the distance from their home to the project boreholes, and they were all within 1km. In addition, according to the data of World Bank, the population density of Rwanda is 546 people per square kilometres. In other word, with the borehole as the centre of the circle and a radius of 1km, the population could reach 1715, which is much higher than the project scenario.				
The data source is: https://data.worldbank.org/indicator/EN.POP.DNST?locations=RW				
The finding is closed now.				

Table 2. CAR from this verification

CAR ID	01	Section no.	C of MR	Date: 30/01/2026
Description of CL				
In the ER sheet parameter $Q_{p,y}$ has been bifurcated as 6.45 & 6.81 Liters of water consumption for 2 vintages respectively for the two vintages. But the MR reports the single value only, please clarify the rationale/basis of the 2 values for the 2 vintages for the clarity of the third-party readers.				
Project participant response				Date: 10/02/2026

6.45 is the result of 2nd WCFT, used under period from 25/07/2023 to 24/07/2025. The clarification has been added in the Section C of the revised MR: The second WCFT was conducted from 16/05/2024 to 26/05/2024, which is for the period from 25/07/2023 to 24/07/2025. As per the methodology, results of each household were capped at 7L. Hence the result of Qp,y is 6.45L. The result of WCFT is recorded in Excel spreadsheet "Data Recording Form for 2nd WCFT_Rwanda", and has been submitted too. We used multi-stage sampling. We calculated through Equation (33) of "Guidelines for sampling and surveys for CDM project activities and programmes of activities (Version 04.0)" and concluded that 8 was the minimum number of boreholes should be sampled to satisfy the 95/10 rule of applied methodology. As we have randomly chosen 8 villages of 8 boreholes, the 95/10 confidence has been met.	
Documentation provided by project participant	
VVB assessment	Date: 13/02/2026
The justification and the rationale were assessed reasonable and therefore accepted as 2 vintages were computed based in the two WCFT results. The actual number of users/beneficiaries In terms of personnel have been added in the revised MR. Finding is closed now.	

Table 3. FAR from this verification

No FAR raised during this verification

FAR ID	xx	Section no.	Date: DD/MM/YYYY
Description of CAR			
NA			
Project participant response			Date: DD/MM/YYYY
Documentation provided by project participant			
VVB assessment			Date: DD/MM/YYYY

Annexure: Water Quality Protocol

Water Quality Testing Protocol

Prepared by Water Quality Testing Laboratory of the NGO Forum

1. Introduction

WQTL developed a comprehensive Water Quality Testing Protocol for water quality. The Protocol contained a detailed section on operational guideline for monitoring staff and was prepared based on the new information collected from local context and international experience.

2. Sampling

Collect water samples from different sources such as tube wells, hand pumps, and surface water sources. The samples should be collected in clean containers that are free of contaminants.

The required steps are described below:

- a) Wear proper protective equipment such as gloves, eye protection, and waterproof boots.
- b) Select a clean container that is appropriate for the type of analysis required. The container should be free from contaminants and have a tight-fitting lid.
- c) Approach the sampling site and ensure the surrounding area is free from any potential hazards.
- d) Rinse the container three times with the water to be sampled, and discard the rinse water each time.
- e) Submerge the container completely under the surface of the water for several seconds and then tilt it upwards to avoid capturing surface water only.
- f) Fill the container slowly, avoiding any bubbles or splashing.
- g) Once the container is full, carefully remove it from the water and immediately secure the lid.
- h) Label the container with the sampling location and time, and any other relevant information.
- i) Store the sample in a cooler with ice or in a refrigerator, depending on the analysis required.

Analyze the sample as soon as possible, or within the time frame recommended by the laboratory or sampling protocol.

3. Preservation

Preservative tablets should be added to the samples to ensure the water quality remains unchanged during transportation to the laboratory.

The required steps are described below:

- a) Choose appropriate sample container: The container used for preserving water samples should be made of a material that does not react with the water or alter the water quality. Typically, glass bottles or plastic containers made of polyethylene (PE) or polypropylene (PP) are recommended.
- b) Clean the container: Clean the container thoroughly before using it to prevent contamination. A good way to clean is to rinse the container with distilled or deionized water and let it dry.
- c) Add preservatives: Some water samples may require the addition of preservatives to prevent bacterial or chemical changes that can occur during transport and storage. The type and amount of preservative needed depend on the type of water being tested. Common preservatives include sodium thiosulfate, nitric acid, and sulfuric acid.

- d) Label the container: Label the container clearly with the date, time, location, and any other important information related to the sample.
- e) Transport and store the sample: After collecting the sample, it should be stored in an insulated container to prevent temperature changes. The sample should be transported to the lab as soon as possible, and ideally, should be analyzed within 24 hours of collection.
- f) Use appropriate containers: Make sure you have the right containers for your sample type. Glass, plastic, or metal containers with airtight seals can protect against spills or contamination.
- g) Label your sample: Label your sample with any relevant information, such as the type of sample or the date and time of collection.
- h) Transport safely: For samples that require refrigeration, use cool bags or ice packs to keep the sample at the appropriate temperature during transportation. For fragile samples, use protective packaging to prevent damage during transport.
- i) Store correctly: Follow any specific storage requirements for your sample type. Store samples in a cool, dry place away from direct sunlight or any other conditions that can cause degradation or spoilage.
- j) Monitor regularly: Check the integrity and quality of the sample regularly to ensure it has not degraded during storage.

4. Laboratory Analysis

The collected samples should be analyzed in a laboratory with the necessary equipment and expertise to perform the tests.

The required steps are described below:

- a) Gather the materials needed for the analysis, including the equipment, reagents, and samples.
- b) Follow the procedures and protocols of the lab for the specific analysis you are performing.
- c) Record all relevant data, such as the sample types, quantities, and measurements, as well as any observations made during the analysis.
- d) Monitor the equipment and reagents used in the analysis to ensure their accuracy and optimal functioning.
- e) Analyze the data obtained from the analysis and draw conclusions based on the results obtained.
- f) Report and communicate the results obtained to the appropriate stakeholders, such as fellow analysts, researchers, or clients.
- g) Dispose of any hazardous or contaminated materials used during the analysis in accordance with the laboratory's protocols and regulations.
- h) Maintain a clean, organized, and safe work environment throughout the analysis process.
- i) Results Interpretation: The results should be compared against the permissible limits and guidelines

5. Reporting

A report should be generated with the results obtained from the analysis, and the interpretation of these results.

The required steps are described below:

- a) Define the Purpose of the Report: The first step in reporting is to define the purpose of the

report. This can involve identifying the audience, gathering data, and creating a clear outline of what the report should accomplish.

- b) Gather Data: Data is a critical component of any report, so it is essential to gather and analyze relevant data. This can involve conducting research, conducting surveys, and collecting data from multiple sources.
- c) Analyze Data: Once you have gathered the data, you need to analyze it to draw meaningful insights that will help you tell the report's story. This can involve creating visual aids, such as charts or graphs, and using statistical analysis tools.
- d) Develop and Organize the Report: Once you have gathered and analyzed the data, the next step will be to develop and organize the report. This may involve writing an executive summary, creating headings and subheadings, and creating an outline.
- e) Review and Edit: Once you've created a draft of the report, you should review it carefully and edit it to ensure it is clear, concise, and free of errors. Make sure that your report fits the audience you are trying to reach.
- f) Share the Report: The final step in the reporting process is to share the report with your intended audience. You may need to present your findings in a verbal presentation, written report, or a combination of both. Be sure to explain your findings and recommendations clearly and answer any questions your audience has.

6. Information Database

It is important to note that all forms contain water quality test data and the sanitary inspection reports should be preserved as hard copy as well as soft copy. It will help to validate data and also act as a backup system.

Document information

<i>Version</i>	<i>Date</i>	<i>Description</i>
04.0	6 April 2021	Revision to: • Reflect the “Clarification: Regulatory requirements under temporary measures for post-2020 cases” (CDM-EB109-A01-CLAR).
03.0	31 May 2019	Revision to: • Ensure consistency with version 02.0 of the “CDM validation and verification standard for programmes of activities” (CDM-EB93-A08-STAN); • Make structural and editorial improvements.
02.0	29 December 2017	Revision to align with the requirements of the “CDM validation and verification standard for programme of activities” (version 01.0).
01.0	5 June 2015	Initial publication.
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