

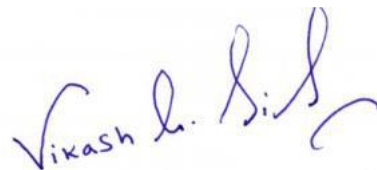


Verification and certification report form for Gold Standard project activities

BASIC INFORMATION

Title and UNFCCC reference number of the project activity	Water for Climate Rwanda (GS 6598_GS4GG)
Scale of the project activity	☒ Large-scale ☐ Small-scale
Version number of the verification and certification report	04
Completion date of the verification and certification report	04/02/2023
Monitoring period number and duration of this monitoring period	3 rd 01/11/2020 to 31/12/2021
Version number of the monitoring report to which this report applies	2.0, (29/11/2022)
Crediting period of the project activity corresponding to this monitoring period	01/03/2019 to 29/02/2024
Project representative(s)	CO2logic
Host Party	Rwanda
Applied methodologies and standardized baselines	Technologies and practices to displace decentralized thermal energy consumption (TPDDTEC), version 3.1
Mandatory sectoral scopes	03
Conditional sectoral scopes, if applicable	-
Estimated amount of GHG emission reductions or GHG removals for this monitoring duration in the registered PDD	75,318 tCO ₂ e
Certified amount of GHG emission reductions or GHG removals for this monitoring period	30,975tCO ₂ e
SDG Impacts:	1 – SDG 1: No Poverty 2 – SDG 3: Good Health and Well-Being 3 – SDG 5: Gender 4 – SDG 6: Clean Water and Sanitation 5 – SDG 13: Climate
Name and UNFCCC reference number of the DOE	E-0052: Carbon Check (India) Private Ltd.

**Name, position and signature of the approver
of the verification and certification report**

A handwritten signature in blue ink, appearing to read 'Vikash Kumar Singh', is written over a light blue rectangular background.

Vikash Kumar Singh, Compliance officer

SECTION A. Executive summary

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The Project Participant, CO2logic has appointed the Validation & verification body (VVB), Carbon Check (India) Private Ltd. (CCIPL) to perform 3rd periodic verification of the GS Project Activity “Water for Climate Rwanda Project” in Rwanda (hereafter referred to as “Project Activity”). The project activity “Water for Climate Rwanda Project” involves Water Access Rwanda (WAR) together with CO2logic and mkaarbon safari implementation of a project to provide safe drinking water to communities in the districts of Rusizi, Ngoma, Rwamagana, Bugesera, Kirehe and Nyagatare.

The project consists of the repair of damaged and defunction boreholes, the drilling of new boreholes and new water points belonging to a stand-pipe system. The rehabilitation of boreholes or provision of new safe water supply points reduces the need for households to boil water as a means of purification or to consume unsafe water being the scenario prior to implementation of the project activity. Boreholes consists of only one water point (being at the location of the borehole) or several water points if a stand-pipe system is connected to a borehole.

This report summarises the findings of the verification of the project, performed on the basis of Gold standard for global goals (GS4GG), as well as criteria given to provide for consistent project operations, monitoring and reporting and the subsequent decisions by the Gold Standard. Verification is required for all registered GS project activities intending to confirm their achieved emission reductions and proceed with request for issuance of ERs. This report contains the findings and resolutions from the verification and a certification statement for the verified emission reductions.

Verification is the periodic independent review and ex-post determination of both quantitative and qualitative information by a Validation & verification body (VVB) of the monitored reductions in GHG emissions that have occurred as a result of the registered CDM project activity during a defined monitoring period.

Certification is the written assurance by a Validation & verification body (VVB) that, during a specific period, a project activity achieved the emission reductions as verified.

The objective of this verification was to verify and certify emission reductions reported for the “Water for Climate Rwanda Project” in the host country “Rwanda” for the current monitoring period 01/11/2020 to 31/12/2021 (including both the days).

The purpose of verification is to review the monitoring results and verify that the monitoring methodology was implemented according to the monitoring plan and monitoring data and used to confirm the reductions in anthropogenic emissions by sources, is sufficient, definitive and presented in a concise and transparent manner. CCIPL’s objective is to perform a thorough, independent assessment of the registered project activity.

In particular, the monitoring plan, monitoring report and the project’s compliance with relevant GS and host Party criteria are verified in order to confirm that the component project/s has/have been implemented in accordance with the previously registered project design and conservative assumptions, as documented. It is also confirmed if the monitoring plan is in compliance with the registered PDD and the approved monitoring methodology.

Scope:

The scope of the verification is:

- To verify the project implementation and operation with respect to the registered PDD
- To verify the implemented monitoring plan with the registered PDD and applied baseline and monitoring methodology.

- To verify that the actual monitoring systems and procedures are in compliance with the monitoring systems and procedures described in the monitoring plan.
- To evaluate the GHG emission reduction data and express a conclusion with a reasonable level of assurance about whether the reported GHG emission reduction data is free from material misstatement.
- To verify that reported GHG emission data is sufficiently supported by evidence.

The verification shall ensure that the reported emission reductions are complete and accurate in order to be certified.

Verification process:

The verification comprises a review of the monitoring report /01/ over the monitoring period from 01/11/2020 to 31/12/2021 and based on the revised/registered PDD/02/, /B03/ in part of the monitoring parameters and monitoring plan, emission reduction calculation spreadsheet, monitoring methodology and all related evidence provided by project participant.

Remote interviews are also performed as part of the verification process.

Conclusion:

The verification team assigned by the Validation & verification body (VVB) concludes that the monitoring report /01/, meet all relevant requirements of the Gold Standard as per the requirements of GS4GG. The verification has been conducted in-line with the GS4GG requirements.

To avoid double-counting, VVB has cross check from all the registries including CDM, VCS, GCC etc and confirms that the project activity does not claimed VER/CER/REC under any other registries.

The project activity was correctly implemented according to the selected monitoring methodology, monitoring plan and the revised/registered PDD /02/, /B05/. The monitoring system was installed, maintained in a proper manner, while collected monitoring data allowed for the verification of the amount of achieved GHG emission reductions. The following table provides the resulted emission reduction from the project as verified through the document review and remote interviews by the verification team.

Vintage	ER (tCO ₂ e)
01/11/2020 to 31/12/2020	4,425 tCO ₂ e
01/01/2021 to 31/12/2021	26,550 tCO ₂ e
Total for the monitoring period	30,975 tCO ₂ e

CC IPL as a Validation & verification body (VVB) is therefore pleased to issue a positive verification opinion expressed in the attached Certification statement.

SECTION B. Verification team, technical reviewer and approver

B.1. Verification team member

No.	Role	✎ ✎	Last name	First name	Affiliation	Involvement in
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					(e.g. name of central or other office of DOE or outsourced entity)	Desk/document review	On-site inspection	Interviews	Verification findings
1.	Team Leader	IR	Chaudhary	Aparna	CC IPL	X	N/A	X	X
2.	Trainee Assessor	IR	Verma	Aastha	CC IPL	X	N/A	X	X
2.	Local Expert	IR	Muganga	Rogers	CC IPL		N/A	X	

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	IR	C.	Indumathi	CC IPL
2.	Approver	IR	Singh	Vikash Kumar	CC IPL

SECTION C. Means of verification

C.1. Desk/document review

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The verification was performed primarily based on the review of the Monitoring report /01/ and the supporting documentation. This process included review of data and information presented to verify their completeness and review of the monitoring plan and monitoring methodology. Documents reviewed or referenced during the verification are listed in Appendix 3 below.

C.2. On-site inspection

Justification for not conducting On-site inspection:

Carbon Check has not conducted an on-site inspection, which is also in conformity with the Gold Standard, the RULE UPDATE: COVID 19: INTERIM MEASURES was PUBLISHED on: 24/07/2020. Apropos to this rule update and since the on-site inspection can-not be postpone due to verification timeline agreed between the PP and the VVB as per the verification contract, verification team replaces the mandatory on-site visits with remote audits in conformity with the 4.1.1 (b) of the said rule updates. The table below details the agenda for the remote interview with the with the PP.

C.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Thaler	Johann	WAR	03/06/2022	Project implementation and operation, monitoring procedure, data and information flow, CER calculation and completeness of monitoring report, QA/QC Procedures, Quality Assurance – Management and operating system	Aparna Chaudhary Aastha Verma, Rogers Muganga
2.	Iragena	Aurore	WAR	03/06/2022	Project implementation and operation, monitoring procedure, data and information flow	Aparna Chaudhary Aastha Verma, Rogers Muganga
3.	Survey ID:	298518818	Household	03/06/2022	Project survey and project's SD impacts	Aparna Chaudhary Aastha Verma, Rogers Muganga
4.	Survey ID:	244548724	Household	03/06/2022	Project survey and project's SD impacts	Aparna Chaudhary Aastha Verma, Rogers Muganga
5.	Survey ID:	244548731	Household	03/06/2022	Project survey and project's SD impacts	Aparna Chaudhary Aastha Verma, Rogers Muganga
6.	Survey ID:	360278956	Household	03/06/2022	Project survey and project's SD impacts	Aparna Chaudhary Aastha Verma, Rogers Muganga
7.	Survey ID:	244548762	Household	03/06/2022	Project survey and project's SD impacts	Aparna Chaudhary Aastha Verma, Rogers Muganga
8.	Survey ID:	328541706	Household	03/06/2022	Project survey and project's SD impacts	Aparna Chaudhary Aastha Verma, Rogers Muganga
9.	Survey ID:	367696287	Household	03/06/2022	Project survey and project's SD	Aparna Chaudhary Aastha Verma,

					impacts	Rogers Muganga
10.	Survey ID:	318575498	Household	03/06/2022	Project survey and project's SD impacts	Aparna Chaudhary Aastha Verma, Rogers Muganga

C.4. Sampling approach

VVB has used sampling during verification for checking the Usage Survey, Impact Parameters has been conducted or not. Considering that Rwanda is a Least Developed Country (LDC), applying §39 (c) of the sampling standard (version 09.0) /B07/, a sample size for 8 households was chosen (with no non-responses) for the project activity. A sample size of 8 was required, based on an AQL of 0.5 % and UQL of 20 %, the producer risk used is 10 % and consumer risk used was 20 %. Acceptance number (c) thus determined for the sample is 0. The remote interviews were conducted through phone calls by the VVB's assessment team leader with the help of local assessor in Rwanda. As a part of acceptance sampling, VVB has cross-checked the same questionnaires and interview results (for the Usage Survey /Impact Parameters) as opted by PP. The objective of this acceptance sampling was to check if the records including responses as provided by PP is acceptable or not or is there any discrepancies.

The sample size for VVB's acceptance sampling based on above is 8..

WCFT:

The WCFT sampling and interview of samples have been conducted at the time of 2nd verification and valid for the two years. Since the 2 years have not passed yet. Thus, PP does not conduct the WCFT for the current monitoring period in the requirement for the same has been crosschecked from the registered PDD and the applied methodology by the Verification Team. And thus, the verification team do not conduct the sampling for the WCFT's data and parameters to be monitored (Qp, Qp, rawboil,y and Qp, cleanboil,y).

Out of the 12 samples chosen by the VVB, the final list of samples (from PP's sample), which has been finally interviewed are as below:

Usage Survey /Impact Parameters:

1. Survey ID: 298518818, Random Sequence No:5546
2. Survey ID: 244548724, Random Sequence No:3288
3. Survey ID: 244548731, Random Sequence No:3321
4. Survey ID: 360278956, Random Sequence No:3164
5. Survey ID: 244548762, Random Sequence No:1570
6. Survey ID: 328541706, Random Sequence No:1335
7. Survey ID: 367696287, Random Sequence No:153
8. Survey ID: 318575498, Random Sequence No:949

The details of the sample interviewed are listed in section C.3 (under the list of interviewed persons). No discrepancy was found in any of the 8 samples and thus c=0, i.e., no discrepant records were observed. Thus, PP's set of records has been accepted in line with §33 of the sampling standard (version 09.0) /B07/ for the impact parameters questionnaire were prepared and was used during the survey by the PP. Verification team has cross verified these sample documents during the remote interviews and for the impact parameters as well no discrepancies could be identified.

Verification team has also confirmed that the WCFT has not been conducted at the households for this verification because previous one is still valid at the time of this verification period.

Leakage (LEp,y):

Acceptance sampling for the parameter Leakage (LEp,y) for this verification period is done by the verification team. The date of Remote Audit for the given Parameter is 03/06/2022.

The sample size for VVB's acceptance sampling based on above is 8.

No discrepancy was found in any of the 8 samples and thus $c=0$, i.e., no discrepant records were observed. Thus, PP's set of records has been accepted in line with §33 of the sampling standard (version 09.0) /B07/ for the impact parameters questionnaire were prepared and was used during the survey by the PP. Verification team has cross verified these sample documents during the remote interviews and for the impact parameters as well no discrepancies could be identified.

Out of the samples chosen by the VVB, the final list of 8 samples (from PP's sample), which has been finally interviewed are as below:

1. Survey ID: 301479828
2. Survey ID: 367696256
3. Survey ID: 360105717
4. Survey ID: 244548690
5. Survey ID: 360105456
6. Survey ID: 244548762
7. Survey ID: 301479804
8. Survey ID: 298518746

The third leakage assessment for the current monitoring period was conducted by the PP between 30/05/2022 and 20/06/2022 and the verification team cross checked the leakage assessment through acceptance sampling, remote interview of end users and leakage survey report/03e/.

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

The VVB has raised 05 clarifications and 02 corrective action requests. No FAR is raised by DOE.

SECTION D. Verification findings

D.1. Remaining forward action requests from validation and/or previous verifications

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There were zero (00) forward action requests from the previous verification.

D.2. Compliance of the project implementation and operation with the registered project design document

Means of verification	Document Review, Interview
Findings	Please refer to Appendix 4 for further details.
Conclusion	CC IPL by means of remote interviews and document review, assessed that all the features (technology, project equipment and monitoring) of the revised/registered PDD /02/, /B03/ are in place and that the project participants have operated the project as per the revised/registered PDD /02/, /B03/. The location of the project activity is clearly defined in the revised/registered PDD /02/, /B03/. Water Access Rwanda (WAR) together with CO2logic and mkaarbon safari has implemented a project to provide safe drinking water to communities in the districts of Rusizi, Ngoma, Rwamagana, Bugesera, Kirehe and Nyagatare. The company SPADEL has provided the funding for the project. The project consists of the repair of damaged and defunct boreholes, the drilling of new boreholes and new water points belonging to a stand-pipe system. The rehabilitation of boreholes or provision of new safe water supply points reduces the need for households to boil water as a means of purification or to consume unsafe water being the scenario prior to implementation of the project activity. Boreholes consists of only one water point (being at the location of the borehole) or several water points if a stand-pipe system is connected to a borehole. In case of a standpipe system water is pumped from the borehole to different water points using solar energy. In case solar energy is not available, diesel generators are used. No grid electricity has been used during this monitoring period.

The project has implemented 66 water points /04/ out of which 11 water points belong to 2 stand-pipe systems, one with 5 water points (Mugesera standpipe system in Ngoma) and other one with 7 water points (Rukoronko standpipe system in Bugesera).

These water points consist of either boreholes or standpipe system. The stand-pipe system is operated by Solar PV during the reported monitored period and the same was confirmed during the remote interviews.

Thus, there was no grid electricity, however for Two diesel generators (in the standpipe systems Rukoronko and Mugesera) have been used from time to time as a back-up to solar energy during this monitoring period by the project and PP has appropriately accounted for the project emission on account of same.

The district wise /04/ breakup of the water points are as below:

- Rusizi: 16 water points
- Rwamagana: 9 water points
- Ngoma: 14 water points
- Bugesera: 12 water points
- Kirehe: 11 water points
- Nyagatare: 4water points

The start date of the project activity is 03/10/2018 as per the registered PDD/B03/ and revised PDD/02/, that is the date on which the first borehole has been rehabilitated /19/ under this project activity. This is the real action taken by the PP in accordance with the "Glossary of CDM term".

As verified through document review and remote interviews, the project implementation and operation, all physical features of the project comply with the project design document /B05/.

Verification team has checked the information in the monitoring report /01-b/ and compared against the registered/revised PDD /02/, /B05/ and found consistent.

Verification team-based review of provide documents and remote interviews has checked the project location, implementation, technology applied, project equipment, physical features and monitoring system against the information in the registered/revised PDD /02/, /B05/.

The verification team based on remote interviews and document review, was able to conclude that the project activity has been commissioned and implemented as per the registered/revised PDD /02/, /B05/ and that physical features of the project are in place.

Verification team confirms that:

- a) The project activity is implemented as per registered PDD/B05/.
- b) The actual operation of the proposed CDM project activity is in line with the registered/revised PDD /02/, /B05/.
- c) It has reviewed the registered/revised PDD /02/, /B05/ including the monitoring plan, the applied monitoring methodology and found that the final MR/01/ for this monitoring period is in line with all the above-mentioned documents.

Verification team of CCIPL has also reviewed the following documents, which confirms that a robust and effective grievance addressable mechanism is in place and the same is being followed by the PD and also during the reported monitoring period:

1. Grievance Register /14-1/ which includes summary of grievance received/recorded during the monitoring period.

	2. Records of Grievance handled during the monitoring period /14-2/. The addressal of Grievance is being done in a way to resolve any technical issue. The technical improvements at the water points to address any Grievance was also checked during the remote interviews of the sample water points. In summary, the monitoring period is reasonable, and the operation of the project activity is in accordance with the registered/revised PDD /02/, /B05/.
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D.3. Post-registration changes

D.3.1. Temporary deviations from the registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents¹

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Verification team based on review of the monitoring report and remote interviews confirms the following deviations during the reported monitoring period:

Some of the water points were tested for E. coli with delays, i.e., some of them exceeded the 6 months for the 1st test after rehabilitation/drilling or start of commissioning (in case of standpipe water points) or the 3 months for subsequent E. coli tests. In such cases the project technology days have been only considered in the ER calculation, if the 2 consecutive tests were E. coli negative. No project technology days and hence no emission reductions have been accounted for in the period between a negative and a subsequent positive test or a positive and a subsequent negative test. No project technology days and hence no emission reductions would have been accounted for in the period between a negative and a subsequent positive test or a positive and a subsequent negative test. The worksheet tab 'E. coli delays' in the Project Water Point Database provides an overview of when E. coli tests would have been due and when they have been finally conducted. However, since there were no positive E. coli tests during this monitoring period, it was not needed to discount any project technology days due the delay of E. coli tests.

In the opinion of verification team, the approach opted by the PP for the deviation is appropriate as well as conservative (for bullet 1 above) and thus acceptable to the verification team.

D.3.2. Corrections

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Not applicable

D.3.3. Changes to the start date of the crediting period

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Not applicable

D.3.4. Inclusion of a monitoring plan

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Not applicable

D.3.5. Permanent changes from registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines or other methodological regulatory documents

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¹ 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).

Verification team based on review of the monitoring report and remote interviews confirms the following permanent change to the monitoring plan:

1. To record diesel consumption using rulers or weighing scales as stated in the monitoring plan was not the actual monitoring system at the water point site. Instead, the hours and minutes are continuously recorded the diesel generators and the Diesel fuel consumption is then calculated by multiplying the time (HH:MM) the diesel generators are switched on by the calculated hourly consumption (based on manufacturer's specifications and load factor). The calculated diesel fuel consumption is compared with the purchase receipts and in case that the value based on the purchase receipts is higher, the latter one is used for conservativeness.

In the opinion of verification team, the monitoring approach opted by the PP is appropriate as well and also represents the actual practice at the site and thus acceptable to the verification team. Verification team has reviewed the records to operation of DG set at two standpipe systems along with the calculation and receipt of diesel purchased. Based on this review, it can be confirmed that PP has opted the higher value of diesel (as per the purchase receipt) to account for the project emission and the same is deemed a conservative approach.

D.3.6. Changes to the project design

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The project participant has added diesel generators as additional back-up option besides grid electricity. Any emissions from diesel consumption would be taken into account in the ER calculation as soon as they are material, i.e., consist of more than 5% of the overall project emissions. VVB has verified this permanent change at the time of 1st issuance. No GSTAC approval or GS Design Change is needed. Since this design change is not considered to be material. Furthermore, as per the review of monitoring report /01/, revised PDD/02/ emission reduction spreadsheet/03/ and response received from GS/B08/ on this clarification it can be verified that project emission from diesel generator cannot be considered as design change since it is expected to be lower than 5%.

D.3.7. Changes specific to afforestation and reforestation project activities

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Not applicable

D.4. Compliance of the registered monitoring plan with applied methodologies, applied standardized baselines, and other applied methodological regulatory documents

Means of verification	Document Review, Interview
Findings	-
Conclusion	The verification team has checked the actual monitoring plan against the registered monitoring plan and monitoring methodology and applicable tools. Furthermore, the verification team has checked monitoring system by means of comparison with the information given in the monitoring plan and monitoring methodology. The monitoring plan is completely in accordance with the approved methodology /B01/ applied by the registered/revised PDD /02/,/B05/.

D.5. Compliance of monitoring activities with the registered monitoring plan

D.5.1. Data and parameters fixed ex ante or at renewal of crediting period

Means of verification	Document Review, Interview
Findings	--
Conclusion	Verification team confirms that the data and parameters fixed ex ante are in compliance with the registered/revised PDD /02/, /B05/ and monitoring plan /B05a/. Please refer to the Annex 1 for assessment of each parameter.

D.5.2. Data and parameters monitored

Means of verification	Document Review, Interview
Findings	Please refer to Appendix 4 for further details.
Conclusion	The verification team confirms that the data and parameters monitored are in compliance with the registered/revised PDD /02/, /B05/ and the monitoring plan/B03/. It is confirmed that the verification team assessed the data / information flow from the point of monitoring to emission reduction calculation and found no gap in the same. Detailed assessment of each parameter has been provided in Annex 2.

D.5.3. Implementation of sampling plan

Means of verification	Document Review, Interview
Findings	-
Conclusion	The Vérification team has note that as per the registered monitoring plan the following sampling is involve. The assesment for each of the parameter has been provided below. <u>Leakage assessment</u> As per the MR/01/ and Interview, PP conducted the third (3rd) performance certification for the leakage assessment. a) 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 verification team find that above point is not applicable for the subject project. As per the MR/01/ the baseline technologies are referred to the devices used for water boiling which are three stone fires, traditional cookstoves and to a minor extent improved cookstoves and confirmed in a leakage survey in which 97% of the households confirmed to continue using the device for cooking and 3% confirmed to have destructed the device which was previously used for boiling (see excel file “220614 W4C-Leakage survey_clean_final.xlsx” for more details. Whereas, the verification Team crosscheck during the remote audit and finds that the acceptance sampling confirmed the survey result provided by the PP and is deemed to be consistent and correct. All the interviewed HHs are using the Borehole. So, verification Team finds the project has no leakage. b) Non-project users who previously used lower emitting energy sources use the non renewable biomass or fossil fuels saved under the project activity. Not applicable and the verification team confirms that the no leakage is accounted for the subject project because the energy source used in the baseline for water boiling is firewood/01/ As per the MR/01/ and Remote audit of the leakage assessment, the verification team did not find any HHs using the non-GHG emitting methods like chlorine treatment for water purification. c) 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. Not applicable. Due to the relatively small size of the project, it's not expected that it will have significant influence on the national NRB fraction. d) 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. Not applicable. As it was confirmed in the leakage survey, none of the interviewed households has applied the boiling of drinking water at the same time for space heating. e) 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. Not applicable. The verification Team finds that the project has no leakage through crosschecking the leakage survey Report/03e/ and Interviews of HHs. <u>Usage/Monitoring Survey</u> As per the applied methodology/registered monitoring plan, the minimum total sample size for Usage/Monitoring Survey is 100, with at least 30 samples for project technologies of each age being credited. Verification team confirms that PP has conducted simple random survey for 127 selected households. Usage survey has been conducted together with the monitoring survey. Verification team based on review of sample list confirms that the samples were randomly selected by the PP. Simple random sampling was the applied as sampling method. The sampling frame consisted of all the households which were recorded in end-user lists by the WASH committees using the project water points. A random number generator tool (https://www.randomdraws.com/random-sequence-generator/) was used to generate a random sample list amongst all households. Those households which were at the top of the list were selected for the survey, going down the list until the pre-defined sample size was reached. The methodology requires to sample at least 100 households, however the PP decided to do some oversampling, hence 127 households were visited in person, /13/ /03/ and some of households in the sample list were omitted because the household was either not willing to participate or not available. <u>Water Consumption Field Test (WCFT)</u> As per the applied methodology/registered monitoring plan, two valid options are allowed for the statistical analysis of the WCFT. In all cases, the sample size must be greater than 20:
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1. 90/10 rule. When the sample size is large enough to satisfy the “90/10 rule”, i.e. the endpoints of the 90% confidence interval lie within +/- 10% of the estimated mean, overall emission reductions can be calculated on the basis of the estimated MEAN of each of the respective variables measured through the WCFT.
2. When the sample size is such that the results do not meet the “90/10 rule”, the result used for each of the respective variables measured through the WCFT is not the mean (or average) test result, but a lower value, i.e. the lower bound of the one-sided 90% confidence interval (in order to reach a conservative estimate) is used for the parameters and $Q_{p,y}$ and $Q_{p,y}$, rawboil,y and a higher value, i.e. the upper bound of the one-sided 90% confidence interval (in order to reach a conservative estimate) is used for the parameter $Q_{p,cleanboil,y}$.

Moreover, VVB wants to confirm that the WFCT Test was conducted during last verification. And on the basis of review of MR, registered PD/B05/ and revised PD/02/ and also with the interview with the PP. It is confirmed that WFCT needs to be conducted biennially and thus the previous WFCT is valid in the current/this monitoring period/verification.

Furthermore, verification team interviewed those who conducted the survey as well as checked the training records and it is based on this confirms the following:

- Enumerators were trained by the carbon consultants, both in form of a theoretical and practical training
- A QA/QC system is in place to check for plausibility and consistency after the raw data had been received from the Enumerators.

Please also refer to appendix 5 of previous verification report report/B05/.

Water quality testing

Verification team noted that PP provided the E. Coli test results and confirm that all results are negative (not shown any presence of E. coli) which is conducted by the WAR own mWater presence/absence test of E. coli. Moreover, Verification Team confirms that the water quality must be tested every quarter, with the first test within 6 months of the stated project start date. The start date of project is the date of rehabilitation/drilling dates of each water point which are provided in the Excel sheet “W4C MP3 Project Water Point Database_.xlsx” by the PP. And for those water points which were rehabilitated within the last 6 months of the monitoring period, or which were not functional in the rainy season, no E. coli tests in the presence of the local health authority were conducted. All of the E. coli tests were negative, or in other words did not show any presence of E.coli in the water.

D.6. Compliance with the calibration frequency requirements for measuring instruments

Means of verification	Document Review, Interview
Findings	-
Conclusion	N/A since there is no monitoring equipment which require calibration.

D.7. Assessment of data and calculation of emission reductions or net removals

D.7.1. Calculation of baseline GHG emissions or baseline net GHG removals by sinks

Means of verification	Document Review, Interview
Findings	--
Conclusion	The equations for baseline emissions, as provided in the monitoring report /01-b/ and confirmed with the registered/revised PDD /02/, /B05/, the methodology Technologies and practices to displace decentralized thermal energy consumption (TPDDTEC), version 3.1/B01/ and supporting tools are: Calculation of baseline value for SDG 13 outcome The equation used to calculate the baseline fuel consumption is calculated in line with the applied methodology and registered PDD and is as follows: $B_{b,y} = (1 - X_{boil}) * (1 - C_j) * N_{p,y} * W_{b,y} * (Q_{p,y} + Q_{p,rawboil,y})$ Where: $B_{b,y}$ Quantity of fuel consumed in baseline scenario b during the year in tonnes (L/p/d) X_{boil} 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 C_j Percentage of users of project safe water supply who were already in baseline using a non-boiling safe water supply $N_{p,y}$ Number of person.days consuming water supplied by project scenario p through year y $W_{b,y}$ Quantity of fuel in tonnes required to treat 1 litre of water using technologies representative of baseline scenario b in year y as per Baseline Water Boiling Test. $Q_{p,y}$ Quantity of safe water in litres consumed in the project scenario p and supplied by project technology per person per day in year y $Q_{p,rawboil,y}$ Quantity of raw water boiled in the project scenario p per person per day

D.7.2. Calculation of project GHG emissions or actual net anthropogenic GHG removals by sinks

Means of verification	Document Review, Interview
Findings	--
Conclusion	The equations for project emissions, as provided in the monitoring report /01-b/ and confirmed with the registered/revised PDD /02/, /B03/.the methodology /B01/ are: A.1. Calculation of project value or estimation of project situation of each SDG outcome The equation used to calculate the project fuel consumption is calculated in line with the applied methodology and registered PDD and is as follows: $B_{p,y} = (1 - C_j) * N_{p,y} * W_{p,y} * (Q_{p,rawboil,y} + Q_{p,cleanboil,y})$ Where : $B_{p,y}$ Quantity of fuel f consumed in project scenario p during the year y

	in tonnes C_j Percentage of users of project safe water supply who were already in baseline using a non-boiling safe water supply $N_{p,y}$ Number of person. Days consuming water supplied by project scenario p through year y $W_{b,y}$ Quantity of fuel in tons required to treat 1 liter of water using technologies representative of baseline scenario b in year y as per Baseline Water Boiling Test. $Q_{p,rawboil,y}$ Quantity of raw water boiled in the project scenario p per person per day $Q_{p,cleanboil,y}$ Quantity of safe water boiled in the project scenario p per person per day in year y Project emissions from possible grid electricity consumption $PE_{EC,y} = EF_{grid,y} \times EC_y$ PE_{EC} Project emissions from grid electricity consumption during year y in tCO₂e $EF_{grid,y}$ CO₂ emission factor of the grid electricity in year y EC_y Quantity of grid electricity consumed for pumping water in a standpipe system to the different water points in year y Project emissions from possible diesel consumption $PE_{FC,y} = EF_{CO_2,diesel,y} \times FC_{diesel,y} \times NCV_{diesel,y} \times Density_{diesel}$ $PE_{FC,y}$ Project emissions from diesel consumption during year y in tCO₂e $EF_{CO_2,diesel,y}$ CO₂ emission coefficient of diesel in year y $FC_{diesel,y}$ Quantity of diesel consumed for pumping water in a standpipe system to the different water points or any other water point in year y $NCV_{diesel,y}$ Net calorific value of diesel in year y $Density_{diesel}$ Density of diesel in year y (only relevant in case that volume of diesel consumption is measured) The transparent calculations of the outcome of SDG 13 (i.e. CO₂e reductions) are provided in a separate excel spreadsheet uploaded to GS Registry. For the used data/parameters, see the sections D.1 and D.2. in this monitoring report.
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D.7.3. Calculation of leakage GHG emissions

Means of verification	Document Review, Interview
Findings	-
Conclusion	The verification team confirms there is No leakage emission has been accounted for the current monitoring period as per the MR/01b/, which is crosschecked by the interviews of HHs/end users and leakage survey report/03e/. The verification team finds Leakage survey results/03e/, is deemed to be consistent with the interview of HHs/end users which is done by the VVB through the acceptance sampling The leakage assessment has been carried out at this 3rd performance certification./01b/ by the PP which is conducted between 30/05/2022 and 20/06/2022 along with a re-assessment of the information provided in the PDD and revealed that there is no leakage (for details see excel spreadsheet "220614 W4C-

	Leakage survey_clean_final.xlsx".
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D.7.4. Summary calculation of GHG emission reductions or net anthropogenic GHG removals by sinks

Means of verification	Document Review, Interview			
Findings	-			
Conclusion	According to the applied methodology, the emission reductions are calculated as:			
	Item	Baseline estimate	Project estimate	Net benefit
	SDG 13	35,345tCO ₂ e	4,370tCO ₂ e	30,975 tCO ₂ e
	SDG 1	Consumption of unsafe/unclean water leads to more poverty. Since money has to be spent for e.g. medicine/hospital and loss of productive working hours	N/A	41,440,235 litres of clean (safe) water has been provided during the monitoring period. Vintage wise liters of clean water: 01/11/2020 - 31/12/2020: 5,920,034 liters 01/01/2021 – 31/12/2021: 35,520,201 liters
	SDG 3	Proportion of households perceiving less often incidence of water borne diseases like cholera, diarrhea, typhoid fever or Hepatitis A/E since the start of the project	N/A	Less people (93%) suffering of diarrhea and other water-borne diseases in the project scenario compared to the baseline scenario.
	SDG 5	Proportion of women in households perceiving reduced amount of time and effort spent for collecting water and wood fuel since the start of the project	N/A	More than 90% and 80% of the women need less time and efforts to collect water and wood fuel.

	SDG 6	Prior to the project the local communities received no regular training on water, sanitation and health related issues.	N/A	7,171 people in 56 Community campaigns have been trained so far as well as 338 trainers. 2018: 2,926 people and 106 trainers trained 2019: 3,226 people and 94 trainers trained 2020: 36 trainers trained 2021: 1,019 people and 102 trainers trained
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D.7.5. Comparison of actual GHG emission reductions or net anthropogenic GHG removals by sinks with estimates in registered PDD

Means of verification	Document Review, Interview		
Findings	-		
Conclusion	The ex-ante estimate value of the emission reductions for the monitoring period as per the PDD /B05a/ is 75,318tCO ₂ e and the actual emission reductions achieved for the monitoring period is 30,975tCO ₂ e. Actual emission reductions are 38.74% of the estimated one for the current monitoring period.		

D.7.6. Remarks on difference from estimated value in registered PDD

Means of verification	Document Review, Interview
Findings	--
Conclusion	The ex-ante estimate value of the emission reductions for the monitoring period as per the registered/revised PDD /02/, /B05/ is 75,318 tCO₂e and the actual emission reductions achieved for the monitoring period is 30,975tCO₂e. For SDG 13, since actual emission reduction is lower than the estimated value and hence it is acceptable to the verification team. The monitoring report provides reason for decrease in the actual emission reduction and the same was confirmed by the verification team by interviewing the representatives of PP and by reviewing the actual implementation status of the project. For other SDG parameters, PP has provided justification in the Monitoring report and assessment of the same is provided below:

² It was foreseen to conduct one campaign per water point.

	• SDG 13: Actual emission reductions are significantly less than the estimated ones. The reason for such decrease has been provided in the MR; checked and found justified. • SDG 3: The actual value slightly exceeds than the estimated value. • SDG 5: The actual value slightly lower than the estimated value. • SDG 6: Verification team based on review of documents and interview with PP confirms that the actual value of this SDG exceeds the estimated value taking into account the sum of WASH campaigns carried out for communities and trainers and thus acceptable to the verification team.
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SECTION E. Internal quality control

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The verification report passed a technical review before being submitted to the Gold Standard. The technical review is performed by a technical reviewer qualified in accordance with CCIPL's qualification scheme for CDM validation and verification.

SECTION F. Verification/Certification opinion

>>

Carbon Check (India) Private Ltd. (CC IPL) has performed the 3rd periodic verification of the registered CDM Project Activity "Water for Climate Rwanda Project" GS 6598.

The verification team assigned by the VVB concludes that the project activity as described in the PDD (Version 5.4, date 30/08/2021) /02/ and the Monitoring report (version 02, dated 29/11/2022) /01-c/, meets all relevant requirements of the Gold Standard. The verification has been conducted in-line with the GS4GG requirements project activities.

Verification methodology and process

The Verification team confirms the contractual relationship signed on 12/10/2020 between the VVB, Carbon Check (India) Private Ltd. and the Project Participant. The team assigned to the verification meets the CCIPL's internal procedures including the UNFCCC/GS requirements for the team composition and competence. The verification team has conducted a thorough contract review as per UNFCCC and CCIPL's procedures and requirements.

The verification has been performed as per the requirements described in the GS4GG and constitutes the review and completion of the following steps:

- Reviewing the revised PDD (Version 5.4 dated 30/08/2021) /02/, including the monitoring plan and the corresponding validation report/B03/.
- Desk review of the validation report /B03/, MR /1/ and other relevant documents including documents related to the project activities in emission reductions.
- Review of the applied monitoring methodology (Technologies and practices to displace decentralized thermal energy consumption (TPDDTEC), version 3.1 /B01/;
- Remote interviews/inspection (03/06/2022)
- Resolution of CARs and CLs raised during verification
- Issuance of Verification Report

The project activity was correctly implemented according to selected monitoring methodology, monitoring plan and the registered PDD. The monitoring system was installed, maintained in a proper manner, while collected monitoring data allowed for the verification of the amount of achieved GHG emission reductions. Through the document review and remote interviews, the verification team confirms that the project activity has resulted in the 30,975tCO₂e emission reductions during the 3rd monitoring period.

This statement covers verification period from 01/11/2020 to 31/12/2021 (including both the dates).

The VVB has raised 05 clarifications and 03 corrective action requests, all of which are closed.

The VVB considers necessary to give reasonable assurance that reported GHG emission reductions were calculated correctly on the basis of the approved baseline and monitoring methodology and the monitoring plan contained in the registered PDD are fairly stated.

The VVB, hereby certifies that the project activity, achieved emission reductions by sources of GHG equal to 30,975 tCO₂e equivalent and all monitoring requirements have been fulfilled and is substantiated by an audit trail that contains evidence and records.

SWS Grievance Resolution

PP has provided an explanation in section E.4 of the MR. As per this explanation, the revised ERs have been calculated based on the default value of 0.0004 tons/litre for the “Quantity of wood fuel or fossil fuel required to boil 1 litre of water using technologies” and this is the amount which claimed 22,097 tCO₂e. The ERs based on the “Quantity of wood fuel or fossil fuel required to boil 1 litre of water using technologies” value of the registered PDD results in 30,975 tCO₂e. The PD requests an issuance of the full amount (30,975 tCO₂e), however makes sure that 18,384 tCO₂e carbon credits from another GS project will be retired prior to issuance to account for the difference.

Appendix 1. Abbreviations

Abbreviations	Full texts
BE	Baseline Emissions
CA	Corrective Action/ Clarification Action
CER	Certified Emission Reduction
CAR	Corrective Action Request
CC IPL	Carbon Check (India) Private Ltd.
CDM	Clean Development Mechanism
CH ₄	Methane
CL	Clarification Request
CO ₂	Carbon Dioxide
CO _{2e}	Carbon Dioxide Equivalent
DVR	Draft Verification Report
EB	CDM Executive Board
EF	Emission Factor
FA	Final Approval
FAR	Forward Action Request
FVR	Final Validation Report
GHG	Greenhouse gas(es)
GWh	Giga Watt Hour
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
LE	Leakage Emissions
MP	Monitoring Period
MR	Monitoring Report
MWh	Mega Watt Hour
OSV	On Site Visit
PE	Project Emissions
PP(s)	Project Participant(s)
PRC	Post registration change
QC/QA	Quality Control/ Quality Assurance
TA	Technical Area
TR	Technical Review
UNFCCC	United Nations Framework Convention on Climate Change
VVS	Validation and Verification Standard
VVB	Validation & verification body

Appendix 2. Competence of team members and technical reviewers



Carbon Check (India) Private Ltd.

Ms. Aparna Chaudhary

has been qualified as per CCIPL's internal qualification procedures, in accordance with requirements of Accreditation Standard (version 07.0):

For following functions:

Validator	☒	Team Leader	☒	Technical reviewer	☐
Verifier	☒	Technical Expert	☒	Local Assessor ¹	☒

In the following Technical Areas:

TA 1.1	☐	TA 3.1	☒	TA 9.1	☐	TA 13.1	☐
TA 1.2	☒	TA 4.1	☐	TA 9.2	☐	TA 13.2	☐
TA 2.1	☐	TA 5.1	☐	TA 10.1	☐	TA 14.1	☐

Mr. Vikash Kumar Singh
Compliance Officer

Mr. Amit Anand
CEO

Date of Approval
29/11/2021

Valid Till
28/11/2022

Revision History of the Document

01/03/2020²
01/09/2020
24/12/2020
29/11/2021

Interim Revision for office address change
Interim Revision for CCIPL logo change
Annual Revision
Revision in response to qualification as Team Leader and Technical Expert

¹ India

² Please refer to previous version of competency certificates for the revision history.

CARBON CHECK (INDIA) PRIVATE LIMITED
CIN: U74930DL2012PTC232495

Regd. Off: 2071/38, 2nd Floor, Naiwala, Karol Bagh, New Delhi - 110005

Corporate off: Unit No. 1701, Logix City Centre Office Tower, Plot No. BW-58, Sector-32 Noida, Uttar Pradesh
Tel: +91 120 4373114 | URL: www.carboncheck.co.in | e-mail: info@carboncheck.co.in



Carbon Check (India) Private Ltd.

Ms. Indumathi. C

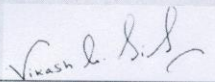
has been qualified as per CCIPL's internal qualification procedures, in accordance with requirements of Accreditation Standard (version 07.0):

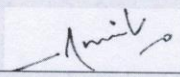
For following functions:

Validator	☐	Team Leader	☒	Technical reviewer	☒
Verifier	☐	Technical Expert	☒	Local Assessor ¹	☒

In the following Technical Areas:

TA 1.1	☒	TA 4.1	☐	TA 9.1	☐	TA 13.1	☒
TA 1.2	☒	TA 5.1	☐	TA 9.2	☐	TA 13.2	☒
TA 3.1	☒	TA 5.2	☐	TA 10.1	☐	TA 14.1	☐


Mr. Vikash Kumar Singh
Compliance Officer


Mr. Amit Anand
CEO

Date of Approval
24/12/2021

Valid Till
23/12/2022

Revision History of the Document

01/03/2020 ²	Interim Revision for office address change
01/09/2020	Interim Revision for CCIPL logo change
24/12/2020	Annual Revision
24/12/2021	Annual Revision

¹ India.

² Please refer to previous version of competency certificates for the revision history.

CARBON CHECK (INDIA) PRIVATE LIMITED
CIN: U74930DL2012PTC232495

Regd. Off: 2071/38, 2nd Floor, Naiwala, Karol Bagh, New Delhi - 110005

Corporate off: Unit No. 1701, Logix City Centre Office Tower, Plot No. BW-58, Sector-32 Noida, Uttar Pradesh

Tel: +91 120 4373114 | URL: www.carboncheck.co.in | e-mail: info@carboncheck.co.in

Appendix 3. Documents reviewed or referenced

Ref no.	Reference Document
/01/	Monitoring Report Version 1.0, Dated: 24/05/2022 Monitoring Report Version 1.1, Dated: 26/06/2022 Monitoring Report Version 2.0 Dated 29/11/2022
/02/	Revised PDD Version 5.4, Dated: 30/08/2021
/03/	a. 20201021_Final results_W4C-Water Consumption Field Tests b. 20220310_W4C MP3 List of water points users_Monitoring and Usage Survey samples v3.0 c. 20220429_GS6598_W4CR_Usage Monitoring survey analysis_MP3_v1.0 d. 20220523_ER calculation_3rd issuance_Water for Climate Rwanda_v1.0 e. 220614 W4C-Leakage survey_clean_final
/04/	Job Card for each boreholes rehabilitated.
/05/	Borehole Rehabilitation forms for each boreholes including the well details.
/06/	Carbon waiver rights signed by the head of WASH committee for each of the borehole in presence of community member
/07/	Manual of E-coli test conduction
/08/	E-coli test report with photographic evidence for each of the sample.
/09/	Database of water points.
/10/	Details of each wash committee
/11/	Details of each WASH training conducted by the wash committee
/12/	List of borehole water point users
/13/	Survey user report and records for the usage rate and impact parameters
/14/	a) Records of grievance register b) Records of Grievance handled during the monitoring period- Sample work completion checklist of the water points
/15/	Training records of personnel who performed the surveys and E-Coli Test
/16/	a) Preventive/scheduled maintenance calendar of the rehabilitated boreholes b) Preventive_maintenance_Protocol_Vers2 c) Records of Preventive_maintenance

/17/	Records of Borehole/Standpipe water point breakdown records as available in m-water database
/18/	Records of Water Consumption Field Consumption (WCFT). a. List of Participant b. Mwash training report c. Water TOTs Participant List' d. New Wash trainings 05_2022 e. W4C Wash Training and WASH committees
/19/	Screen shot of mWater database platform
/20/	Records of Diesel generator operation (hours), diesel purchase receipt and specification of Diesel generator set.

Background Documents

Ref no.	Reference Document
/B01/	Technologies and practices to displace decentralized thermal energy consumption (TPDDTEC), version 3.1
/B02/	Community Services Activity Requirements (version 1.1) under GS4GG https://globalgoals.goldstandard.org/200-gs4gg-community-services-activity-requirements/
/B03/	Registered PDD and Validation Report
/B04/	GS6598 GS4GG Design Certification Review
/B05/	Monitoring report & Verification report of 1 st periodic verification Monitoring report & Verification report of 2 nd periodic verification
/B06/	GS6598 GS4GG Performance Review_FINAL_27052020 of the 1 st periodic verification
/B07/	Standards a) CDM Sampling Standard, version 09.0 b) CDM validation and verification standard for project activities, version 02.0
/B08/	Evidence from the GS on clarification of addition of diesel generators
/B09/	IPCC 2006, volume 2, chapter 1
/B10/	Second National Communication under the UNFCCC by Republic of Rwanda (Ministry of Natural Resources)

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

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

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

Table 2. CL from this verification

CL ID	01	Section no.	-	Date : 06/06/2022
Description of CL				
Under section B.1, PP has stated that the project had implemented at the end of this 3rd monitoring Period. However, the dates or duration of the monitoring period is not mentioned, so get a clear understanding on the dates and duration here, PP is requested to mention the start and end dates of 3 rd monitoring period for the subject project under the section B.1.				
Project participant response				Date : 12/06/2022
The start and end date of the 3 rd monitoring period is now mentioned in section B.1.				
Documentation provided by project participant				
20220626 GS6598 MR 3rd issuance v1.1 clean				
DOE assessment				Date:
On the basis of review section B.1 of the updated MR, it is observed that PP has revised the section with the information of dates of MP. Thus, it is confirmed that the 3 rd monitoring period is from (01/11/2020 to 31/12/2021).				
Hence this finding is closed.				

CL ID	02	Section no.	B.2.5.	Date : 06/06/2022
Description of CL				
In MR under section B.2.5 it is mentioned that "As per the registered monitoring plan, the water quality must be tested every quarter, with the first test within 6 months of the stated project start date" so,				
PP is requested to mention the Stated project Start Date under the section B.2.5. in MR.				
Project participant response				Date : 12/06/2022
As per footnote 4, the project start date has been defined for each water point as the date of rehabilitation/drilling (for boreholes) or commissioning (for standpipe water points). Details on the project start date for each water point are provided in the excel file "W4C MP3 Project Water Point Database_.xlsx".				
Documentation provided by project participant				
20220626 GS6598 MR 3rd issuance v1.1 clean				
DOE assessment				Date:
On the basis of review of the registered PDD version 5.4 dated 30/08/2021, that the project start date is the date of the first borehole has been rehabilitated, while the stated project start date is the date for each borehole (for each water point as the date of rehabilitation/drilling (for boreholes) or commissioning (for standpipe water points). And the stated start date of each water point is considered for the quality test E. coli, i.e. with the first test within 6 months of the stated project start date.				
Hence the finding is closed.				

CL ID	03	Section no.	D.3	Date : 06/06/2022
Description of CL				
PP is requested to mention the numbers of households in the sample list which were omitted due to either not willing to participate or not available under the section D.3 of MR.				
Project participant response				Date : 12/06/2022
The requested information has now been provided in section D.3. of the MR.				
Documentation provided by project participant				
20220626_GS6598_MR_3rd issuance_v1.1_clean				
DOE assessment				Date: 15/06/2022
Under section D.3, PP has provided the information that out of 127 household 13 households is omitted because of unwillingness to answer or not participating. However, under the sheet 20220429_GS6598_W4CR_Usage Monitoring survey analysis_MP3_v1.0, column M all the Households are marked as Yes for surveyed. Moreover, in the sub sheet "Report" under the same sheet cell D220 the total number of respondents is mentioned as 123. PP is requested to clarify the above inconsistency. Hence, the finding is Open.				
Project participant response:				
The number of HH who participated to the survey is 127 (consistent with worksheet tab Sample list/ 20220429_GS6598_W4CR_Usage Monitoring survey analysis_MP3_v1.0.xlsx). Out of them, 4 do not use the project technology and fetch the water elsewhere. There are 123 (=127-4) respondents for this question which is normal since the 4 mentioned above do not use the water points. The worksheet tab "Sample list"/ 20220429_GS6598_W4CR_Usage Monitoring survey analysis_MP3_v1.0.xlsx only indicates those households who have been finally surveyed. While the worksheet tabs "Sample AG0-1_Ordered", "Sample AG1-2_Ordered", "Sample AG2-3_Ordered", "Sample AG3-4_Ordered"/excel file: "20220310_W4C MP3 List of water points users_Monitoring and Usage Survey samples v3.0.xlsx" indicate the households who were not willing to participate in the survey or were not available.				
DOE assessment				Date: 20/06/2022
On the basis of review of the sheets (worksheet tabs "Sample AG0-1_Ordered", "Sample AG1-2_Ordered", "Sample AG2-3_Ordered", "Sample AG3-4_Ordered"/excel file: "20220310_W4C MP3) verification team confirms that there are 13 households is omitted because of unwillingness to answer or not participating.				
Thus, finding is closed.				

CL ID	04	Section no.	B.1	Date : 06/06/2022
Description of CL				
PP is requested to clarify the total number of standpipes under the section B.1 of MR. Moreover, In MR under section B.1 there are two stand-pipe system, one is Mugesera stand-pipe system in Ngoma and other one is Rukoronko stand-pipe system in Bugesera. So, PP is requested to clarify remaining four districts (Rusizi, Rwamagana, Kirehe and Nyagatare) do not have stand-pipe system connected in borehole. If yes, then requested to show them also in google earth screenshot images.				
Project participant response				Date : 12/06/2022
The only 2 standpipe systems in the project are the ones already mentioned in the MR, namely Mugesera and Rukoronko. Hence no change in the MR is needed.				
Documentation provided by project participant				
DOE assessment				Date: 15/06/2022

On the basis of the response by the PP and the review of the MR it is clear to the verification team that there is two standpipes i.e. Mugesera stand-pipe system in Ngoma and other one is Rukoronko stand-pipe system in Bugesera.

However, in the MR section B.1 it is stated that “66 water points out of which 11 water points belong to 2 stand-pipe systems one with 5 water points (Mugesera stand-pipe system in Ngoma) and the other one with 7 water points (Rukoronko stand-pipe system in Bugesera). Which means there are total 5 + 7 water points i.e., in total 12.

PP is requested to justify the inconsistency occurred in the statements.

Project participant response :

This was a typo and has been revised. Section A.1. and B.1. now refer to 12 water points instead of 11 water points. The revised MR has been submitted.

DOE assessment

Date:20/06/2022

There is 12 water points instead of 11 water points and it has been corrected in the revised MR.

Hence, The finding CL04 is closed.

CL ID	05	Section no.	Date : 06/06/2022
Description of CL			
Sequence No. 949 (Survey ID: 318575498), As per the responses of household, they are not using project water point from WAR. There is another project (not WAR) borehole being used. The WAR project water point is only used like once a month or never. While in survey result recording in Excel sheet “20220429_GS6598_W4CR_Usage Monitoring survey analysis_MP3_v1.0” yes is mentioned for the question “Is the water you collect from project water point sufficient for most or all your weekly consumption of water for drinking, cooking, food washing, personal hygiene (hand washing and intimate body”. So, PP is requested to provide the clarification in the MR for this discrepancy between the remote audit assessment and PP’s Survey result. Moreover, The verification team also find the inconsistency in the name of household for the Sequence No. 949 (Survey ID: 318575498) between the sample list sheet and survey result recording sheet in the Excel spreadsheet “20220429_GS6598_W4CR_Usage Monitoring survey analysis_MP3_v1.0”. So, PP is requested to clarify the name of householder.			
Project participant response			Date : 12/06/2022
Household is using water from both the project’s water point and public tap. They use the project’s water point a few times a week as well as a public tap when it is available. The householders are old people, they have a child who fetches water for them and the child fetches from the project’s water point when public tap is not available. When the child is not there, the old woman goes to fetch and she has difficulties to reach the project’s water point, she is collecting water only a few days a month. Concluding, the household can be considered as user of the project’s water point. For the different in names. Karekezi Damasenti is same as Karekezi Damascene, the difference is that it is written as it is pronounced in Kinyarwanda.			
Documentation provided by project participant			
DOE assessment			Date: 15/06/2022

On the basis of the response provided by the PP, that the family includes a child and an old women who fetches water from the project's water point and this is an exceptional due to the ages described by the PP, Thus, verification team finds it deemed acceptable to consider the household as an end user of the Project's water point.

Thus, finding is closed.

Table 3. CAR from this verification

CAR ID	01	Section no.	--	Date : 06/06/2022
Description of CAR				
PP is requested to use the latest template of Monitoring Report version 1.1, dated:14/10/2020 of GS4GG. And also request to remove the filling guidelines in every section throughout the templates.				
Project participant response				Date : 12/06/2022
The MR has been updated using now the latest template of the MR, version 1.1. The filling guidelines in every section has been removed.				
Documentation provided by project participant				
20220626_GS6598_MR_3rd issuance_v1.1_clean				
DOE assessment				Date: 15/06/2022
The cover page of the monitoring report stills shows the version 1, dated June 2017.				
Project participant response				
The date/version of the cover page have been corrected. The revised MR has been submitted.				
DOE assessment				Date: 20/06/2022
The date and version number has been corrected in the revised MR. Hence, The finding is closed successfully.				

CAR ID	02	Section no.	A.4	Date : 06/06/2022
Description of CAR				
As per the filling Guidelines of GS4GG version 1.1 MR "Provide the start and end dates (in DD/MM/YYYY – DD/MM/YYYY) and length of the crediting period as given in approved PDD" PP is requested to mention/provide the end date of crediting period for the subject project activity under the section A.4				
Project participant response				Date : 12/06/2022
The end date of the crediting period has now been mentioned in section A.4.				
Documentation provided by project participant				
20220626_GS6598_MR_3rd issuance_v1.1_clean				
DOE assessment				Date: 15/06/2022
PP has been mentioned the end date of the crediting period (01/03/2024) in the revised MR version 1.1 dated 12/06/2022 as per the filling guidelines as per the GS4GG MR Template version 1.1.				
However, as per the calendar years, the end 5 years from the start date (01/03/2024) will be 29/02/2024. PP is requested to clarify the same.				
Project participant response				
The end date of crediting period has been corrected to 29/02/2024. The revised MR has been submitted.				
DOE assessment				Date: 20/06/2022
The date of crediting period has been corrected to 29/02/2024 in revised MR by the PP. Hence, the finding CAR02 is closed successfully.				

Table 3. FARs from this verification

FAR ID		Section no.		Date:
Description of CAR				
-				
CME response				Date:
-				
Documentation provided by the CME				
-				
DOE assessment				Date: DD/MM/YYYY
-				

Annex 1: Assessment of data and parameters fixed ex-ante at the time of validation

Relevant SDG Indicator	SDG 13, Climate action
Parameter	Cj
Data unit	Percentage
Default values used	18.8 %
Purpose of data	Estimation of emission reductions
Source of verification of the source	Baseline survey records

Relevant SDG Indicator	SDG 13, Climate action
Parameter	Xboil
Data unit	Percentage
Default values used	6.5%
Purpose of data	Estimation of baseline emissions
Source of verification of the source	Baseline survey records

Relevant SDG Indicator	SDG 13, Climate action
Parameter	Wb,y
Data unit	Tonnes/Litre
Default values used	0.00073277
Purpose of data	Estimation of baseline emissions
Source of verification of the source	Baseline Water Boiling Test (BWBT)

Relevant SDG Indicator	SDG 13, Climate action
Parameter	Wp,y
Data unit	Tonnes/Litre
Default values used	0.00073277
Purpose of data	Estimation of project emissions
Source of verification of the source	Baseline Water Boiling Test (BWBT)

Relevant SDG Indicator	SDG 13, Climate action
Parameter	EFb, CO2
Data unit	tCO2/TJ
Default values used	112
Purpose of data	Estimation of baseline emissions
Source of verification of the source	IPCC default value for wood

Relevant SDG Indicator	SDG 13, Climate action
Parameter	EF _{b, non-CO2}
Data unit	tCO2/TJ
Default values used	8.692
Purpose of data	Estimation of baseline emissions
Source of verification of the source	IPCC default value for wood

Relevant SDG Indicator	SDG 13, Climate action
Parameter	EFp, CO2
Data unit	tCO2/TJ
Default values used	112
Purpose of data	Estimation of baseline emissions
Source of verification of the source	IPCC default value for wood

Relevant SDG Indicator	SDG 13, Climate action
Parameter	EF _{p,non-CO2}
Data unit	tCO ₂ /TJ
Default values used	8.692
Purpose of data	Estimation of project emissions
Source of verification of the source	IPCC default value for wood

Relevant SDG Indicator	SDG 13, Climate action
Parameter	f _{NRB,i,y}
Data unit	tCO ₂ /TJ
Default values used	0.98
Purpose of data	Estimation of emission reductions
Source of verification of the source	MINIRENA (Ministry of Natural Resources of Rwanda, 2016): Projection Scenario of Supply/Demand of Woody Biomass in Rwanda from 2015 to 2026. Department of Forestry and Nature Conservation (DFNC), Rwanda Natural Resources Authority (RNRA), MINIRENA, Kigali

Relevant SDG Indicator	SDG 13, Climate action
Parameter	NCV _{b,fuel}
Data unit	TJ/tonne
Default values used	0.0156
Purpose of data	Estimation of baseline emissions
Source of verification of the source	IPCC default value for wood

Relevant SDG Indicator	SDG 13, Climate action
Parameter	NCV _{p,fuel}
Data unit	TJ/tonne
Default values used	0.0156
Purpose of data	Estimation of project emissions
Source of verification of the source	IPCC default value for wood

Relevant SDG Indicator	SDG 13, Climate action
Parameter	EF _{CO2,diesel,y}
Data unit	tCO ₂ /TJ
Default values used	74.1
Purpose of data	Estimation of project emissions
Source of verification of the source	The value has been verified by reviewing IPCC 2006, volume 2, chapter 1, Table 1.4 /B09/

Relevant SDG Indicator	SDG 13, Climate action
Parameter	Density _{diesel}
Data unit	kg/l
Default values used	0.84
Purpose of data	Estimation of project emissions
Source of verification of the source	The value has been verified by reviewing second National Communication under the UNFCCC by Republic of Rwanda (Ministry of Natural Resources), page 40 /B10/.

Relevant SDG Indicator	SDG 13, Climate action
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Parameter	NCV _{diesel,y}
Data unit	TJ/tonne
Default values used	0.043
Purpose of data	Estimation of project emissions
Source of verification of the source	The value has been verified by reviewing IPCC 2006, volume 2, chapter 1, Table 1.2/B09/

Annex 2: Assessment of data and parameters monitored

Monitoring Parameter Requirement	Assessment/ Observation by the DOE
Relevant SDG Indicator	SDG 13, Climate action
Data / Parameter: (as in monitoring plan of PDD):	Np,y Number of persons. days consuming water supplied by project scenario p through year y
Measuring frequency/Time Interval:	At least biennially
Reported value & Unit:	7,984,631 Persons.days
Verified Source of Data	Verification team has cross checked the following documents: • End-user lists /12/ • Borehole/Standpipe water point breakdown records /17/ • E. coli test results /08/ • mWater database platform/19/
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the parameter is calculated. It was checked by the verification team that the parameter has been calculated multiplying the technology days by the number of people indicated in the end-user list /12/ for the respective water point. The technology days again have been calculated taking into account the start and end date of the monitoring period, any days the water point was down /16/ and the days for which the water could not be ensured to be E. coli /08/ free or during which the E. coli tests were on delay. In the opinion of verification team, the approach used for the calculation of the parameter is appropriate as well conservative.
Assessment of details of monitoring equipment, its specification and calibration as per the requirements of registered PDD:	N/A
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA

Monitoring Parameter Requirement	Assessment/ Observation by the DOE
Relevant SDG Indicator	SDG 13, Climate action
Data / Parameter:	Q _{p,y}

(as in monitoring plan of PDD):	Liters per person per day (l/person/day)
Measuring frequency/Time Interval:	At least biennially
Reported value & Unit:	5.19 Liters per person per day (l/person/day)
Verified Source of Data	Verification team has cross checked the following documents: 82 WCFT /18/ in randomly selected households have been conducted in person in the period between 14/07/2020 and 03/10/2020. The sample size was sufficient to comply with the 90/10 rule, hence the mean value, being 5.19 l/p/day of the 90% confidence interval has been applied. The relative precision achieved was 7.24%.
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the parameter is based on WCFT /18/ and the same is deemed acceptable to the verification team.
Assessment of details of monitoring equipment, its specification and calibration as per the requirements of registered PDD:	N/A
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA

Monitoring Parameter Requirement	Assessment/ Observation by the DOE
Relevant SDG Indicator	SDG 13, Climate action
Data / Parameter: (as in monitoring plan of PDD):	$Q_{p,y, rowboil,y}$ Liters per person per day (l/person/day)
Measuring frequency/Time Interval:	At least biennially
Reported value & Unit:	0 Liters per person per day (l/person/day)
Verified Source of Data	WCFT /18/
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, refer assessment above for WCFT. The sample size was not sufficient to comply with the 90/10 rule, hence the upper bound of the 90% confidence interval, being 0.60 l/p/day has been applied and the same is deemed acceptable to the verification team.
Assessment of details of monitoring equipment, its specification and calibration as per the requirements of registered PDD:	N/A
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA

Monitoring Parameter Requirement	Assessment/ Observation by the DOE
Relevant SDG Indicator	SDG 13, Climate action
Data / Parameter: (as in monitoring plan of PDD):	$Q_{p, cleanboil, y}$ Liters per person per day (l/person/day)
Measuring frequency/Time Interval:	At least biennially
Reported value & Unit:	0.60, Liters per person per day (l/person/day)
Verified Source of Data	WCFT /18/
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, refer assessment above for WCFT. During WCFT, none of the households consumed water from jerrycan 3, hence the water consumption from jerrycan 3 was zero and no statistical analysis was necessary, and the dame is deemed acceptable to the verification team.
Assessment of details of monitoring equipment, its specification and calibration as per the requirements of registered PDD:	N/A
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA

Monitoring Parameter Requirement	Assessment/ Observation by the DOE
Relevant SDG Indicator	SDG 13, Climate action
Data / Parameter: (as in monitoring plan of PDD):	$U_{p, y}$ Usage rate in project scenario p during year y
Measuring frequency/Time Interval:	Annual
Reported value & Unit:	82.95%
Verified Source of Data	Verification team has cross checked the following documents: Survey records for the usage rate and Impact parameters /13/. This survey has been verified through acceptance sampling during the remote interviews, please refer to the assessment in section C.4 of this report.
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, refer assessment above.
Assessment of details of monitoring equipment, its specification and calibration as per the requirements of registered PDD:	N/A
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA

Monitoring Parameter Requirement	Assessment/ Observation by the DOE
Relevant SDG Indicator	SDG 13, Climate action
Data / Parameter: (as in monitoring plan of PDD):	LE _{p,y} (Leakage in project scenario p during year y)
Measuring frequency/Time Interval:	Every Two Year
Reported value & Unit:	0 tCO ₂ e /year
Verified Source of Data	Verification team has cross checked the document Monitoring (Leakage) Survey and report by doing the Acceptance sampling .
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, refer assessment above. The monitoring frequency provided by the PP two
Assessment of details of monitoring equipment, its specification and calibration as per the requirements of registered PDD:	NA
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA

Monitoring Parameter Requirement	Assessment/ Observation by the DOE
Relevant SDG Indicator	SDG 13, Climate action
Data / Parameter: (as in monitoring plan of PDD):	Quality of the treated water
Measuring frequency/Time Interval:	The first test within 6 months of the stated project start date, afterwards quarterly
Reported value & Unit:	Positive or Negative based on the test results, E.Coli / 100 ml
Verified Source of Data	Verification team has cross checked the following documents: 1. Manual of E. Coli test /07/ 2. E.Coli test /08/ records for each water points 3. Project Water Point Database/17/
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, The verification Team confirms that for this monitoring period, all water points have been tested for E. coli and for those, where needed, as well in the presence of a local health authority in the rainy season when there is a higher risk of contamination. There were no tests by an accredited laboratory during this monitoring period since the last 2 year accredited laboratory tests did not pass by yet. E. coli test results have been submitted to the VVB. For those water points which were rehabilitated within the last 6 months of the monitoring period, or which were not functional in the rainy season, no E. coli tests in the presence of the local health authority were conducted. All of the E. coli tests were negative, or in other words did not show any presence of E. coli in

	the water.
Assessment of details of monitoring equipment, its specification and calibration as per the requirements of registered PDD:	mWater E. coli test kits
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA

Monitoring Parameter Requirement	Assessment/ Observation by the DOE
Relevant SDG Indicator	SDG 13, Climate action
Data / Parameter: (as in monitoring plan of PDD):	Hygiene campaigns
Measuring frequency/Time Interval:	Annual hygiene campaigns results
Reported value & Unit:	7,171 people in 56 community campaigns have been trained and 338 trainers.
Verified Source of Data	Verification team has cross checked the following documents by reviewing the records of wash trainings /11/ and committee /10/;
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Refer assessment above
Assessment of details of monitoring equipment, its specification and calibration as per the requirements of registered PDD:	NA
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA

Monitoring Parameter Requirement	Assessment/ Observation by the DOE
Relevant SDG Indicator	SDG 13, Climate action
Data / Parameter: (as in monitoring plan of PDD):	Treatment capacity of the project technology/improved sources
Measuring frequency/Time Interval:	Once at the time of registration or at inclusion of new technology
Reported value & Unit:	Liters per day
Verified Source of Data	Verification team has cross checked the following documents: W4C Project Water Point Database /09/ mWater database platform /19/
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Refer assessment above

Assessment of details of monitoring equipment, its specification and calibration as per the requirements of registered PDD:	NA
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA

Monitoring Parameter Requirement	Assessment/ Observation by the DOE
Relevant SDG Indicator	SDG 13, Climate action
Data / Parameter: (as in monitoring plan of PDD):	EF _{grid,y} CO ₂ emission factor of the grid electricity in year y
Measuring frequency/Time Interval:	At the time of issuance
Reported value & Unit:	0.676 tCO ₂ e/MWh
Verified Source of Data	Verification team has cross checked the following documents: https://pub.iges.or.jp/pub/iges-list-grid-emission-factors Furthermore, verification team has noted that no grid electricity has been consumed for pumping water in a standpipe system to the different water points.
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Refer assessment above
Assessment of details of monitoring equipment, its specification and calibration as per the requirements of registered PDD:	NA
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA

Monitoring Parameter Requirement	Assessment/ Observation by the DOE
Relevant SDG Indicator	SDG 13, Climate action
Data / Parameter: (as in monitoring plan of PDD):	EC _y Quantity of grid electricity consumed for pumping water in a standpipe system to the different water points in year y.
Measuring frequency/Time Interval:	Continuous monitoring and at least monthly recording (provided that there is consumption of grid electricity)
Reported value & Unit:	0 MWh
Verified Source of Data	Verification team has noted that no grid electricity has been consumed for pumping water in a

	standpipe system to the different water points.
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Refer assessment above
Assessment of details of monitoring equipment, its specification and calibration as per the requirements of registered PDD:	NA
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA

Monitoring Parameter Requirement	Assessment/ Observation by the DOE
Relevant SDG Indicator	SDG 13, Climate action
Data / Parameter: (as in monitoring plan of PDD):	FC _{diesel,y} Quantity of diesel consumed for pumping water in a standpipe system to the different water points or any other water point in year y
Measuring frequency/Time Interval:	Continuous monitoring and at least monthly recording (provided that there is diesel consumption)
Reported value & Unit:	1,829.41 Litres
Verified Source of Data	Two diesel generators (in the standpipe systems Rukoronko and Mugesera) /20/ have been used from time to time as a back-up to solar energy during this monitoring period. The diesel consumption has been calculated based on the time (HH:MM) the diesel generators were active (see excel spreadsheet 'Generator fuel consumption record_v1.0/worksheet tab 'Fuel usage'/20/) and the calculated diesel fuel consumption per hour (see detailed calculation in the excel spreadsheet 'Generator fuel consumption record_v1.0/worksheet tab 'Fuel consumption per hour') /20/. This calculated diesel consumption has been compared with the purchase receipts /20/ and the higher value based on purchase receipts has been used for conservativeness.
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Refer assessment above
Assessment of details of monitoring equipment, its specification and calibration as per the requirements of registered PDD:	NA
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption	NA

theoretically possible been applied or has a request for deviation been approved?	
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Monitoring Parameter Requirement	Assessment/ Observation by the DOE
Relevant SDG Indicator	SDG 1, No poverty
Data / Parameter: (as in monitoring plan of PDD):	$Q_{tot,p,y}$ Total quantity of safe water in litres per year supplied by the rehabilitated/newly drilled boreholes of the project to the communities in year y
Measuring frequency/Time Interval:	At least biennially
Reported value & Unit:	41,440.24 l/monitoring period
Verified Source of Data	Verification team has cross checked the following documents: Lists supplied by the WASH committee responsible for the water points, New Wash trainings 05_2022, W4C Wash Training and WASH committees/18/.
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Calculated as: $Q_{tot,p,y} = N_{p,y} * Q_{p,y}$ Where $N_{p,y}$ = Number of person.days consuming water supplied by project scenario p through year y $Q_{p,y}$ = Quantity of safe water supplied in the project scenario p during the year y, using the “zero or low” emissions’ clean water supply technology $Q_{tot,p,y} = 7,984,631 * 5.19 = 41,440.24\text{l/monitoring period}$
Assessment of details of monitoring equipment, its specification and calibration as per the requirements of registered PDD:	N/A
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA

Monitoring Parameter Requirement	Assessment/ Observation by the DOE
Relevant SDG Indicator	SDG 3, Good health and well-being
Data / Parameter: (as in monitoring plan of PDD):	$P_{IWB,y}$ Good health and well-being
Measuring frequency/Time Interval:	Annual
Reported value & Unit:	Amongst the households using the project water point: 93% reported a decrease

	07% reported no change
Verified Source of Data	Verification team has cross checked the following documents during the remote interviews: Survey records for the usage rate and Impact parameters /13/. This survey has been verified through acceptance sampling during the remote interviews, please refer to the assessment in section C.4 of this report.
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, refer assessment above.
Assessment of details of monitoring equipment, its specification and calibration as per the requirements of registered PDD:	N/A
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA

Monitoring Parameter Requirement	Assessment/ Observation by the DOE
Relevant SDG Indicator	SDG 5, Gender equality
Data / Parameter: (as in monitoring plan of PDD):	PI TEC, y Gender equality
Measuring frequency/Time Interval:	Annual
Reported value & Unit:	Amongst the households using the project water point: 93% reported a decrease 07% reported no change In terms of time and effort spent for collecting wood fuel, amongst the households using the project water point: 80.5% reported a decrease 17.1% reported no change 2.4% reported an increase
Verified Source of Data	Verification team has cross checked the following documents: Survey records for the usage rate and Impact parameters /13/. This survey has been verified through acceptance sampling during remote interviews, please refer to the assessment in section C.4 of this report.
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, refer assessment above.
Assessment of details of monitoring equipment, its specification and calibration as per the requirements of registered PDD:	N/A
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place.

QA/QC processes in place?	
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA

Monitoring Parameter Requirement	Assessment/ Observation by the DOE
Relevant SDG Indicator	SDG 6, Clean water and sanitation
Data / Parameter: (as in monitoring plan of PDD):	N _{WASH, y}
Measuring frequency/Time Interval:	Annual hygiene campaigns results
Reported value & Unit:	7,171 people in 56 Community campaigns have been trained so far as well as 338 trainers.as per the W4C Wash Training and WASH committees.xlsx”
Verified Source of Data	Verification team has cross checked the following documents during the document review and remote interviews: Records of wash trainings /11/
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Refer assessment above
Assessment of details of monitoring equipment, its specification and calibration as per the requirements of registered PDD:	NA
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA