Verification and Certification Report Form for Project GS11544

BASIC INFORMATION	
Title and reference number of the project	Maji Safi, Maisha Bora Project (GS11544)
Scale of the project	☐ Large-scale ☒ Small-scale
Version number of the verification and certification report	V5.0
Completion date of the verification and certification report	19/03/2026
Monitoring period number and duration of this monitoring period	MP1 | 20/09/2023- 31/05/2025
Version number of the monitoring report to which this report applies	2.5
Crediting period of the project corresponding to this monitoring period	CP No. 1 | 20/09/2023 – 19/09/2028
Project participants	**Project Developer**: OFFGRIDSUN S.R.L. **Project Representative**: Ceres-Enve
Host Party	Republic of Kenya
Applied methodologies and standardized baselines	GS Methodology for Emission Reductions from Safe Drinking Water Supply v1.0
Mandatory sectoral scopes	Sectoral Scope 3: Energy Demand
Conditional sectoral scopes, if applicable	N/A
Estimated amount of GHG emission reductions or GHG removals for this monitoring duration in the registered PDD	**8,296 tCO_2e**
Certified amount of GHG emission reductions or GHG removals for this monitoring period	Amount from 20/09/2023 to 31/12/2023: 416 Amount from 01/01/2024 to 31/12/2024: 4,568 Amount from 01/01/2025 to 31/05/2025: 3,312 **Total: 8,296 tCO_2e**
Name and reference number of the VVB	Ampere for Renewable Energy (UNFCCC Ref. A6.4-E-0008)
Name, position and signature of the approver of the verification and certification report	Ahmad Qadry, Certification & Technical Manager

SECTION A. Executive summary

Ampere Co. for Renewable Energy (hereafter referred to as Ampere) has conducted the first periodic verification of the Gold Standard project titled "Maji Safi, Maisha Bora Project" (GS11544), implemented by Ceres-Enve in Siaya County, Republic of Kenya. The verification was carried out in accordance with the Gold Standard for the Global Goals (GS4GG), applying the Gold Standard Methodology for Emission Reductions from Safe Drinking Water Supply (Version 1.0). The project contributes to multiple Sustainable Development Goals (SDGs), primarily through the provision of safe drinking water, the reduction of greenhouse gas emissions, and improvements in community health, gender equality, and environmental sustainability.

Project Contributions to Sustainable Development Goals (SDGs)

The project directly contributes to six SDGs, as reported in the Monitoring Report and confirmed during verification:

- SDG 13 – Climate Action: By providing safe water without the need for boiling, the project reduces dependence on non-renewable biomass for water purification, thereby avoiding emissions from firewood combustion. A total of 8,296 tCO_2e emission reductions were achieved during the monitoring period.
- SDG 6 – Clean Water and Sanitation: The project rehabilitated and expanded a solar-powered water supply system, ensuring 35,905 m^3 of safe water was delivered during the monitoring period through 20 functional water kiosks and 180 private connections. The system provides clean, chlorinated water that meets national drinking water standards.
- SDG 3 – Good Health and Well-being: By replacing unsafe water sources and eliminating the need for boiling, the project reduces exposure to smoke and airborne pollutants, preventing respiratory diseases. 97% of households avoided the risk of waterborne illnesses, ensuring safe water access to the communities.
- SDG 5 – Gender Equality: Women and children, who were primarily responsible for collecting firewood and boiling water, experience substantial time savings. 99% of surveyed households reported perceiving saved time from reduced wood collection and boiling, allowing for improved participation in education and economic activities.
- SDG 7 – Affordable and Clean Energy: The installation of solar-powered pumps and smart water kiosks replaces grid electricity and manual payment systems. A total of 87,110 kWh of renewable electricity was generated during the monitoring period, contributing to sustainable energy use.
- SDG 8 – Decent Work and Economic Growth: The project created 23 local jobs, both temporary and permanent, associated with construction, maintenance, and operation of the water kiosks and pumping system.

Project Background and Objectives

The Maji Safi, Maisha Bora Project ("Clean Water, Better Life") was developed to address chronic challenges related to water accessibility and quality in East and West Yimbo Wards, Bondo District, Siaya County, located in Western Kenya. Before the project implementation, communities relied on untreated lake water or unprotected wells, often boiling water using firewood to make it safe for drinking. This practice contributed to significant deforestation, carbon emissions, and health problems from indoor air pollution.

The project, implemented by OffgridSun in collaboration with Genius Watter, Makohaa (CBO), Jerri-Hydro Experts, and PENWA (water system operator), aimed to create a Community Water Treatment and Supply (CWT) system powered by solar energy. The system consists of intake pumps, sand filtration units, chlorine treatment tanks, storage reservoirs, and smart water kiosks managed through the LORENTZ smartTAP system, enabling cashless water vending using prepaid tags. The main objectives of the project are:

1. Climate Mitigation: Reduce GHG emissions by replacing firewood-based water boiling with access to treated water.
2. Health Protection: Improve household health by providing safe drinking water free of pathogens and pollutants.
3. Gender Empowerment: Reduce the workload of women and children by cutting the need for firewood collection.
4. Renewable Energy Integration: Operate a solar-powered water treatment system that utilizes grid connectivity with net metering (from 3 August 2024 onwards) to ensure reliable energy supply and long-term financial sustainability.
5. Community Development: Strengthen local capacity for water system management through training and maintenance programs implemented by PENWA and Makohaa.

Scope of Verification

This verification covered the first monitoring period from 20/09/2023 to 31/05/2025, corresponding to the first crediting period (20 September 2023 – 19 September 2028). The verification scope included:

- Assessment of GHG emission reductions under SDG 13, using the applied methodology.
- Review of monitoring data, parameters, and calculations presented in the Monitoring Report v2.0 and the emission reduction spreadsheet.
- Verification of project implementation, including technology operation, monitoring systems, and data management processes.
- Evaluation of sustainable development contributions reported under SDGs 3, 5, 6, 7, 8, and 13.
- Site inspection and sampling verification of operational kiosks, tanks, and water distribution systems to ensure compliance with the registered PDD (Version 3.5).
- Confirmation that all Forward Action Requests (FARs) from validation were addressed satisfactorily, particularly regarding the submission of the maintenance plan and water quality testing evidence.

The verification was performed according to the Gold Standard Verification and Validation Requirements, Ampere's Validation and Verification Manual, and ISO 14064-3:2019 principles for evidence-based assurance.

Monitoring Periods Covered

The monitoring period verified is 20/09/2023 – 31/05/2025, representing the first monitoring period (MP1) of the first crediting cycle. During this period, the project achieved a total of 8,296 tonnes of CO_2 equivalent (tCO_2e) in emission reductions, distributed as follows:

Monitoring Vintage	Start Date	End Date	Emission Reductions (tCO_2e)
2023	20/09/2023	31/12/2023	416
2024	01/01/2024	31/12/2024	4,568
2025	01/01/2025	31/05/2025	3,312
Total			**8,296**

Table 1 Monitoring Vintages among the Monitoring Period.

Achievements and Contributions to SDGs

The **Maji Safi, Maisha Bora Project** achieved significant environmental and socio-economic outcomes during the first monitoring period, verified in alignment with the Gold Standard principles. The verified results demonstrate measurable impacts across climate action, public health, gender equality, clean energy, and economic development.

1. Climate Action (SDG 13)
The project achieved 8,296 tCO_2e of verified emission reductions by displacing the baseline scenario of boiling water with firewood. This reduction results from the delivery of safe, treated water through solar-powered kiosks and private connections, eliminating the need for combustion of non-renewable biomass. The monitoring data and ER calculations confirmed methodological compliance with the *GS Methodology for Emission Reductions from Safe Drinking Water Supply (v1.0)*.

2. Clean Water and Sanitation (SDG 6)
The project distributed 35,905 m^3 of clean water that meets Kenyan national water quality standards. This was achieved through a well-designed chlorination system (Dosatron D30WL automatic chlorine dispenser) and sand filtration tanks. A total of 20 functional water kiosks and 180 private household connections were operational during the monitoring period. The verification team confirmed that the system operates

continuously except for a brief shutdown in April–May 2024 due to pump flooding, which was documented and addressed by the project operator.

3. Good Health and Well-being (SDG 3)
The safe water supply led to a decline in the reliance on boiling practices and reduced exposure to indoor air pollution from wood smoke. Communities reported fewer cases of respiratory illness and waterborne diseases, verified through stakeholder interviews and review of local health awareness campaign records.

4. Gender Equality (SDG 5)
The project substantially reduced time spent by women and children on water collection and firewood gathering. Monitoring results show 99% of households acknowledged saved time due to project implementation. This time-saving benefit contributes to gender empowerment by enabling women to engage in income-generating activities and children to dedicate more time to schooling.

5. Affordable and Clean Energy (SDG 7)
The project operates entirely on renewable solar energy. LORENTZ smartTAP systems and Futura Sun solar modules power all kiosks and pumping operations. The total renewable energy generated and utilized during the monitoring period was 87,110 kWh, significantly reducing grid electricity dependence and operational costs.

6. Decent Work and Economic Growth (SDG 8)
The project created 23 job opportunities in construction, water system operation, and community management. Local operators were trained under the supervision of PENWA, enhancing skill development in water resource management.

Methodology and Verification Approach

The verification was conducted using the Gold Standard Methodology for Emission Reductions from Safe Drinking Water Supply (Version 1.0), which quantifies emission reductions based on avoided boiling practices through the supply of safe drinking water. The verification team reviewed the methodology application and confirmed the consistency of all monitoring and calculation parameters with the registered PDD. The verification approach combined desk review, on-site inspection, and data cross-checking:

- Desk Review: Comprehensive evaluation of the Monitoring Report, ER spreadsheet, and supporting documents such as calibration certificates, maintenance records, and water quality testing reports.
- On-Site Inspection: Physical verification of project infrastructure, including tanks, kiosks, solar systems, and smartTAP meters. The team confirmed operational status and quality control of chlorination and water distribution.
- Sampling and Interviews: Representative sampling of operational kiosks and beneficiary households was conducted to verify consistency between monitored data and field observations.
- Data Validation: Cross-verification of metered water volumes (35,905 m^3) with cumulative kiosk records and ER spreadsheets.
- FAR Review: The Forward Action Requests raised during validation were verified and found satisfactorily implemented, including submission of the maintenance and repair plan by Jerri-Hydro Experts and water quality testing reports confirming compliance with WHO standards.

Ampere can ensure and certify that the data reviewed is free from material misstatement and consistent with the monitoring methodology within a reasonable level of assurance.

Project Location

Ampere verifying the mentioned Project Activity under the Gold Standard, where project takes place in the Republic of Kenya, as shown in the Figure below.

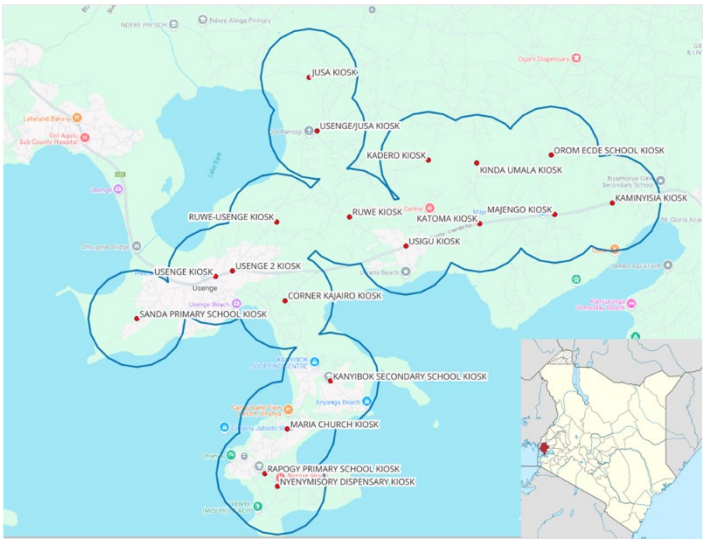

Figure 1 Kiosks location in the project.

The VVB (Verification and Validation Body) has reviewed the project's compliance with the applicability criterion regarding the distance between the water source and the end-user. The VVB confirms that the project boundary is correctly defined and enforced as the area encompassing end-users within a 1 km radius of each operational water kiosk. All populations and water volumes used in the emission reduction calculations are correctly derived from within this defined boundary.

This verification is based on the "Gold Standard Methodology: Emission reductions from safe drinking water supply Version 1.0". Applicability criterion (f) of this methodology explicitly states that for Community Water Treatment (CWT) technologies, "the water in its improved form shall be available within a distance of 1 km or less from the end-users".

The VVB confirms the project's adherence to this criterion based on a triangulation of evidence:

- Project Design: The PDD explicitly defines the project boundary as "the end users within 1 km of each water kiosk". The ex-ante house counting surveys were designed to select and count households "within the 1km circle of the planned locations of water kiosks".
- Visual & Data Verification: The PP provided several maps in the PDD (e.g., Figure 10, Figure 19) and MR (Figure 1) that visually plot the 1 km buffer zones around each kiosk. Furthermore, the PP utilized a third-party mWater/Solstice dashboard (as reviewed by the VVB via the provided link) to cross-check their ex-ante population estimates specifically within this 1 km radius, confirming the boundary was a critical tool for planning.
- Monitoring & Implementation: The project's monitoring plan is built around this 1 km boundary. The monitoring surveys, including the one conducted on 27-28 November 2024, correctly sampled households from the population residing within this 1 km perimeter. Strong evidence of enforcement was observed when the Nyagera Kiosk was closed; the PP correctly "excluded [the] kiosk and its service area... from the project boundary," demonstrating active management of this defined area.
- Physical On-Site Visit: In compliance with Methodology Section 2.2.1 (f), the VVB physically verified the operational status and GPS coordinates of the water kiosks. The verification confirmed that end-users reside within the required 1 km service area. Furthermore, on-site interviews with end-users corroborated this accessibility, confirming that the total collection time—including travel (walking/pedaling) and queuing—is 30 minutes or less, thereby satisfying both the primary distance requirement and the alternative proxy defined in the guidelines.

Based on the review of the PDD, the Solstice/mWater data, the monitoring procedures, and observations from the on-site visit, the VVB concludes that the project has provided sufficient and robust evidence to demonstrate full compliance with the 1 km applicability criterion.

Conclusion

Based on the verification activities conducted, Ampere for Renewable Energy confirms that the Maji Safi, Maisha Bora Project (GS11544) has been implemented in line with the registered Project Design Document and that the monitoring plan was properly applied during the monitoring period from 20/09/2023 to 31/05/2025. The verification team confirmed that the monitoring system is reliable, transparent, and consistent with Gold Standard requirements. The emission reductions of 8,296 tCO_2e are real, measurable, and additional.

The project delivers verified co-benefits under SDGs 3, 5, 6, 7, 8, and 13 through the supply of safe water, improved health outcomes, reduced firewood consumption, renewable energy use, and local job creation. No material discrepancies or methodological deviations were found, and all corrective actions from validation were implemented as required. Ampere issues a positive and unmodified verification opinion, confirming that the monitored emission reductions and sustainable development contributions comply with the Gold Standard for the Global Goals.

SECTION B. Verification team, technical reviewer and approver

B.1. Verification team members

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of VVB or outsourced entity)	Involvement in			
						Desk/document review	On-site inspection	Interviews	Verification findings
1.	Team Leader	IR	Abdellatif	Yehya	Central	Y	-	Y	Y
2.	Verifier	EI	Atabek	Seda	Central	Y	-	-	Y
3.	Technical & Local Expert	EI	Ochola	Eugene	Central	-	Y	Y	Y
4.	Trainee	IR	Tabanjah	Mohammad	Central	Y	-	-	Y

Table 2 Verification team members

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

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of VVB or outsourced entity)
1.	Technical reviewer	EI	K	Sudheendra	Central
2.	Approver	IR	Qadry	Ahmad	Central

Table 3 Technical reviewer and approver of the verification and certification report

SECTION C. Application of materiality

C.1. Consideration of materiality in planning the verification

No.	Risk that could lead to material errors, omissions or misstatements	Assessment of the risk		Response to the risk in the verification plan and/or sampling plan
		Risk level	Justification	
1.	Observational error by project monitoring staff in recording metered water volumes or kiosk data	Medium	The metering data are manually extracted from the LORENTZ smartTAP system and consolidated by the project operator. Minor risks exist due to human handling and record transfer.	The verification team cross-checked kiosk and private connection meter readings with cumulative logs. Random checks were conducted on-site to confirm data accuracy.
2.	Erroneous transfer of data from field records to ER calculation spreadsheets	Medium	Manual data entry into the ER tool may lead to misstatements. Internal quality checks were found in place.	The verification team reviewed the data transfer chain and cross-verified random entries from raw records, MR tables, and the ER calculation file. No discrepancies were found.
3.	Calculation errors in emission reduction spreadsheets	Medium	The ER tool involves multiple parameters, formulas, and references that could lead to computational mistakes.	The verification team performed a detailed formula audit and confirmed alignment with the methodology for safe drinking water supply (v1.0) and the registered PDD.
4.	Incomplete or biased sampling of household and kiosk data	Low	Improper selection of operational kiosks could lead to overestimation of performance.	The verification team reviewed the sampling approach and confirmed proportional representation of all active kiosks and private connections. Cross-verification was done during the site inspection.
5.	Inconsistent reporting between the Monitoring Report, ER sheets, and field evidence	Medium	Differences between documents could result in inaccurate aggregation or double counting.	Data from the MR, ER tool, and water supply logs were compared. A consistency check was conducted per reporting unit to verify internal alignment.
6.	Stakeholder feedback or operational complaints not addressed during monitoring	Low	Lack of documented grievance handling could indicate incomplete monitoring or project performance gaps.	The team reviewed the grievance records and confirmed an active feedback mechanism through logbooks and user surveys. No unresolved complaints were identified.

Table 4 Consideration of materiality in planning the verification

C.2. Consideration of materiality in conducting the verification

Based on the review of the ER calculation sheet, it is confirmed with reasonable assurance that both individual and aggregated material discrepancies for the project activity have been identified and addressed in alignment with the Gold Standard requirements. The verification team conducted a comprehensive assessment of the data presented in the monitoring report and the emission reduction calculation spreadsheet.

In accordance with Section 9.6.3 of the GS VVS, a 5% materiality threshold was applied. No material discrepancies, including overestimations of emission reductions, omissions, or misstatements, were detected during the verification process.

SECTION D. Means of verification

D.1. Desk/document review

The verification was conducted primarily as a desk review, focusing on the documentation provided throughout each stage of the assessment. Following established verification protocols and checklists, the verification team carefully examined the Monitoring Report and supporting documents to confirm accuracy, completeness, and consistency with GS requirements. Cross-referencing with additional sources, where available, and conducting independent background checks allowed for a thorough verification process. Ampere's desk review involved the following steps:

- Data and Information Review: A detailed examination of the submitted data and information to ensure their accuracy, completeness, and alignment with the project's monitoring plan.
- Monitoring Plan and Methodology Assessment: An in-depth review of the monitoring plan and methodology as outlined in the PDD, with particular attention to the frequency of measurements and adherence to quality assurance and control procedures.
- Calculation and Assumption Verification: A thorough review of all calculations and assumptions used to determine GHG emission reductions, ensuring they comply with the methodology requirements.
- Data Management and Quality Control Evaluation: An assessment of the data management and quality assurance systems to evaluate their effectiveness in supporting accurate, reliable ER reporting.

A full list of documents reviewed during verification can be found in Appendix 3 of this report.

D.2. On-site inspection

A physical site inspection was conducted from 16/07/2025 to 19/07/2025 in Siaya County (Ururi, Uhanya, Kodero, Wambasa, Got Umala, Ugingo, Sanda, Nyamonye/Nyamonye) with follow-up meetings and the lab visit in Nairobi County. Time in/out across the visit windows was 09:02–18:24. The inspection was carried out by Eugene Ochola (Local Technical Expert) with oversight from Yehya Abdellatif (Team Leader). An attendance record was maintained daily for Ampere and project representatives.

The Local Technical Expert was able to verify continued operation of the CWT/CWS system, confirm the integrity of metered water data, assess the implementation of O&M and WASH activities, and check the functionality of the grievance procedures as well as physically checking a representative sample of intake, treatment, storage, kiosks, and households; verify water quality testing and the laboratory's accreditation.

The table below records the on-site activities completed during the inspection from 16/07/2025 to 19/07/2025. It lists what was verified, where it was checked, the date of each check, and the Ampere team member responsible.

Duration of on-site inspection: 16/07/2025 to 19/07/2025				
No.	**Project performed on-site**	**Site location**	**Date**	**Team member**
1.	Verify raw-water intake and intake line routing to pump house	Lake Victoria intake, Ururi	16/07/2025	Eugene Ochola
2.	Inspect pump house structure, pump operation, safety and pressure readings	Nyamonye pump house	16/07/2025	Eugene Ochola
3.	Check raw-water storage and inlet/outlet condition	Raw water tank, Kodero	16/07/2025	Eugene Ochola
4.	Inspect dual media filtration units and backwash arrangements	Filtration tanks, Got Umala	16/07/2025	Eugene Ochola
5.	Inspect chlorination system (doser), contact time, residual checks; review records	Treatment and clean-water storage, Umala	16/07/2025	Eugene Ochola
6.	Verify off-grid PV array, controls, and REMO pump telemetry	PV pads, Wambasa/Sanda	17/07/2025	Eugene Ochola
7.	Inspect elevated tank and additional clean-water storage capacity	Elevated tank, Tank 4, Ugingo	17/07/2025	Eugene Ochola
8.	Inspect additional ground tank and valves	Clean-water Tank 5, Ugingo	17/07/2025	Eugene Ochola

9.	Field-check legacy SmartTAP kiosks; observe dispensing and manual log sheets	Usenge kiosk; Kajairo kiosk	17/07/2025	Eugene Ochola
10.	Field-check new SmartTAP kiosks; observe tag recharge and downtime notes	Sanda kiosk; Kaminisia kiosk	17/07/2025	Eugene Ochola
11.	Review O&M logbooks, daily kiosk sheets, monthly reconciliations, grievance register	PENWA office, Nyamonye	18/07/2025	Eugene Ochola
12.	Conduct beneficiary household interviews and storage/usage observations	Nyamonye and Sanda villages	18/07/2025	Eugene Ochola
13.	Meet operator and field staff (kiosk attendants, CHPs, technicians) for process walk-throughs	PENWA office / field routes	18/07/2025	Eugene Ochola
14.	Visit accredited laboratory; review 40 WQT results and chain-of-custody	SPECTRA Lab, Nairobi	19/07/2025	Eugene Ochola
15.	Closing meeting with project management on findings and corrective actions	Nairobi	19/07/2025	Eugene Ochola

Table 5 On-site inspection activities (16/07/2025–19/07/2025)

Interviews conducted

Project operator/implementers:

- Offgrid Sun (Valentina Quaranta, Elifcan Ozbek, Adams Omondi)
- Genius Watter (Dario Traverso), Jerri-Hydro (Jeremiah Ouma)
- PENWA leadership (Everlyne Ojwang, Mary Ogola, Atieno Anyango)
- Technicians (incl. Eric Onyor – chlorination lead).
- Community and service staff: Water kiosk attendants (multiple)
- Community Health Promoters (group sessions)
- motorbike operators supporting sensitization.

Education/Health:

- Public Health Officer (Jessica Oyoo)
- Kanyibok Secondary School staff and students

Households/beneficiaries visited (Acceptance Sample):

- Magdaline Ogoda
- Margaret Akinyi Otieno
- Mary Anyuka
- Patricia Olwayo
- Rose Auma
- Dorcas Awuor
- Esther Akinyi Odhiambo
- Grace Awuor
- Lisa Adhiambo

Interview durations ~12–25 minutes; in-home observations covered storage practices, sourcing, historic boiling, current use of project water, and illness history. Based on the physical checks, interviews, and records review during the site visit, the following observations were confirmed and are supported by photos, logs, and laboratory documents:

- **Functionality and operations**: Intake, pumping, filtration, chlorination, and storage were operating. Chlorine dosing was automatic and stable; water clarity acceptable. SmartTAP kiosks dispensed normally; tag recharge working.
- **Data systems:** Manual kiosk sheets were maintained daily; monthly reconciliation was performed. SmartTAP/REMO digital outputs were available. Spot checks showed close agreement between manual and digital totals; minor lag in SmartTAP displays (previous-day data) noted by attendants.

- **O&M and governance:** Maintenance logs were current (daily/monthly/periodic tasks listed and signed). A grievance register existed with entries and closures; no open grievances found at the time of inspection.
- **WASH/education:** Annual WASH campaigns evidenced (booklets and attendance). One observation at Kanyibok: handwashing station lacked soap at time of visit; school staff addressed during the visit.
- **Laboratory:** SPECTRA Laboratory visited; 40 samples had been tested. Accreditation documentation and result sheets were reviewed; results met applicable microbial standards.
- **Geospatial traceability:** GPS was recorded for pump house, tanks, and kiosks (see table).
- **Records:** Photos and short videos were taken for the intake, pump house, tanks, treatment elements, meters, kiosks, O&M records, receipts, WASH materials, WQT records, registration and grievance books, and stakeholder sessions.

The physical inspection confirmed the system is installed and operating, the monitoring and record-keeping are in place and used, maintenance and grievance mechanisms are active, and water-quality testing is performed by an accredited lab. A minor hygiene non-conformity observed at a school handwashing point was corrected on the spot. The evidence gathered during the visit supports the reliability of the monitored data used in this verification.

Side Notes During the Site Visit

During the 16/07/2025–19/07/2025 inspection, the operating picture that emerged is of a system that is installed, running, and actively managed, but with clear efficiency gaps the operator is already trying to close. At intake and through treatment, pumping, and storage, equipment was in service and producing clear, chlorinated water; SmartTAP kiosks and private connections were dispensing as designed, and PENWA's team kept daily kiosk sheets and monthly reconciliations against SmartTAP/REMO outputs. Interviews and record checks showed a functioning maintenance regime with signed daily, monthly, and periodic tasks; a grievance log with issues opened and closed; and WASH materials and attendance records supporting the outreach obligations. Spectra Laboratory's accreditation and 40-sample dataset were reviewed along with chain-of-custody steps and indicated compliance with microbial limits at the points sampled. GPS coordinates were recorded across the pump house, tanks, and kiosks, enabling traceability and future re-inspection of assets.

The most material operational risk is non-revenue water. Management stated that only about 35% of treated water reaches end users, with the remainder lost across storage and distribution; the same theme appears in the records through frequent references to pipe bursts, kiosk downtime during maintenance, and the dismantled raw-water meter that repeatedly clogged with debris. Those factors directly suppress the dispensed volume that underpins emission reductions, and the team acknowledged the credit shortfall versus initial expectations. Corrective steps are underway: six bulk meters have been procured to segment the network for a proper water balance; pressure readings are being used as an early-warning control; and expansion of the kiosk network is on hold until leakage is contained. Pressure telemetry is already interpreted operationally—0–5 Pa as "no flow," 5–10 Pa as "tank not receiving," 10–11 Pa as "probable burst," and about 12 Pa as normal—and the attendants and technicians described how they react when readings drift, though the action ladder would benefit from a concise SOP with clear triggers, responsibilities, and logging requirements.

Data integrity controls are present and largely effective but would benefit from tighter tolerances and defined responses. SmartTAP presents the previous day's totals; kiosk attendants keep daily paper sheets; and the office performs monthly reconciliations. Spot checks during the visit found close agreement, with minor timing gaps between manual and digital sums. To lock this down, it would be prudent to formalize an acceptable variance (for example, ≤1% over a month per dispensing point), require root-cause notes for any breach, and capture the corrective measure alongside the reconciliation sign-off. On metering upstream, the raw-water meter's removal due to debris means the current balance relies on downstream meters and kiosk data; a simple engineering corrective—improved screening at intake, a debris-tolerant meter, or relocation—should be planned with a target date so that the full intake-to-household balance can be restored and NRW traced by segment.

Service quality and user protection were visible in the field but not yet quantified by KPI. Users reported occasional dry kiosks for a day during maintenance, and the operator logs monthly and bi-annual preventive work. A simple continuity metric (maximum kiosk downtime hours per month and a notification protocol for users) would turn these observations into measurable performance, with escalation thresholds when consecutive days are missed. Tariffs were consistent—KES 5 per 20 L at kiosks; KES 175 per unit for piped connections, with billing starting 26 days after installation—and attendants explained the tag recharge process and end-of-day data capture. Governance lines were clear in practice: Offgrid Sun as investor,

PENWA as daily operator and employer of kiosk staff, Genius Watter as engineering support for hydraulics, Jerri-Hydro as implementer, Makohaa and the Public Health Officer for WASH training and community sensitization. Training and competence were evident (for example, the named chlorination lead and technicians), and it would be straightforward to consolidate this into a single matrix listing role, training dates, refreshers due, and assigned assets. Finally, the minor hygiene gap observed at the Kanyibok school handwashing point (soap missing) was corrected during the visit; capturing a quick follow-up photo in the next MR annex will close the loop.

In short, the site visit supports the reliability of the monitored dispensing data and confirms that the treatment and distribution assets are operating, maintenance and grievance mechanisms are in place, and WASH and laboratory controls are active. The principal improvement area is NRW: document and execute the water-balance program (with bulk meters, pressure-trigger SOPs, and intake metering restored), establish downtime and reconciliation KPIs with response actions, and formalize the training an d asset registers. These steps are already in motion and, once implemented, should strengthen both operational performance and the assurance around future monitoring results. These observations have been included in the findings presented in Appendix 4.

D.3. Interviews

The meetings held during this project could be divided into meetings with the Project Participants and interviews with the Stakeholders during the site visit. The two tables below summarize the related important points related to these meetings.

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Quaranta	Valentina	OffgridSun S.r.l.	07/07/2025	1. Completion of Borehole Rehabilitation and Implementation Alignment with PDD. 2. Roles and Responsibilities of the Implementer in Borehole Maintenance and Water Supply Management. 3. Grievance Mechanism and Feedback Channels for Beneficiary Communities. 4. Annual Monitoring and Evaluation Processes, Including Water Quality Testing and Data Validation. 5. Verification of Borehole Functionality and Addressing Operational Issues. 6. Monthly Community Engagement and Random Sampling for Borehole Usage Assessment. 7. Site Visit Outcomes and findings discussion. 8. Usage rate and monitoring practices.	Yehya Abdellatif, Seda Atabek, and Eugene Ochala
2.	Öztürk	Zeynep Pınar	Ceres Enve			
3.	Ozbek	Sati Elifcan	OffgridSun S.r.l.			

Table 6 Meetings were held with projects participants along the verification process.

No.	Name	Locality (Siaya)	Interview setting	Key topics verified	Evidence captured
1	Magdaline Ogoda (Buffer)	Nyamonye area	In-home visit	Primary drinking-water source; collection time; historic boiling; current practice; storage and handling; recent illness history	Interview notes; photo log entry
2	Margaret Akinyi Otieno (Main)	Nyamonye/ Sanda corridor	In-home visit	Source reliability; frequency of collection; residual-boiling question; safe-storage container; point of use	Interview notes; photo log entry
3	Mary Anyuka (Main)	Nyamonye area	In-home visit	Main source used; queueing time; treatment practice; storage hygiene; WASH awareness	Interview notes; photo log entry
4	Patricia Olwayo (Main)	Sanda area	In-home visit	Access distance/time; changes since project; boiling history; storage container type; illness in last month	Interview notes; photo log entry
5	Rose Auma (Buffer)	Sanda area	In-home visit	Dependence on kiosks vs alternatives; handling after collection; residual-boiling share; perceptions of service	Interview notes; photo log entry
6	Dorcas Awuor (Main)	Nyamonye area	In-home visit	Collection pattern; storage practice; use at household; feedback on kiosk downtime	Interview notes; photo log entry
7	Esther Akinyi Odhiambo	Nyamonye/ Sanda corridor	In-home visit	Travel/queue time proxy; baseline boiling; current treatment; hygiene at container	Interview notes; photo log entry
8	Grace Awuor (Main)	Sanda area	In-home visit	Main source; frequency; storage and dispensing method; user experience	Interview notes; photo log entry
9	Lisa Adhiambo (Buffer)	Nyamonye area	In-home visit	Historic vs current boiling; storage sealing/cleaning; time savings; WASH materials recall	Interview notes; photo log entry
10	Eric Onyor* (Main)	Nyamonye area	At household; role cross-checked at PENWA office	Household use pattern and storage; plus operator perspective on chlorination routine, residual checks, and kiosk reconciliation	Interview notes; role verified against O&M records

*Eric Onyor was interviewed at the household level for usage and storage, and separately in his professional capacity as PENWA's chlorination lead during the operator interviews.

Table 7 Interviews were held with stakeholders (beneficiaries) during the site visit.

D.4. Sampling approach

The registered plan defines a simple, auditable frame: eligible end-users are those living within 1 km of a serving point (or an equivalent time proxy), with randomized household contact lists built from the operator's customer database and field rosters. For household-level surveys, the PDD sets a minimum n ≥ 100 when the target group exceeds 1,000, with precision targeted at 90% confidence and 10% margin (90/10). For ongoing water-quality testing (WQT), the plan specifies ≥ 30 samples drawn from end-user containers at receipt, analyzed by an accredited laboratory on an annual cadence. In MP1, execution tracked that plan: the project survey was run on 27/11/2024–28/11/2024 with 157 households, and the WQT campaign analyzed 40 samples at Spectra's ISO/IEC 17025-accredited facility.

To show the statistical adequacy that underpins the "90/10" claim, the household sample can be evaluated against the standard binomial proportion formula:

$$n \geq \frac{Z_{0.90}^2 \, p \, (1-p)}{E^2}$$

where $Z_{0.90} = 1.645$, $p$is the proportion under worst-case variance (0.5), and $E$is the margin (0.10). This yields a minimum $n \approx \frac{1.645^2 \cdot 0.25}{0.10^2} \approx 68$. The 157 responses collected in MP1 exceed this comfortably. In fact, the implied margin at 90% confidence is:

$$E = Z_{0.90}\sqrt{\frac{p(1-p)}{n}} = 1.645\sqrt{\frac{0.25}{157}} \approx 6.6\%$$

So, the realized precision is tighter than 10% under simple random sampling (design effect assumed 1.0). The WQT campaign, with 40 samples, exceeds the minimum of 30, with locations spread across storage and representative kiosks to test water as received by end-users. To ensure full coverage of the project population, these 40 samples were drawn from users' transport containers (jerry cans) at household level, covering both kiosk users and households supplied via compound stand taps (private connections). Households with private connections collect and store water in the same way as kiosk users, so the container-based sampling is considered technically representative of the hygiene and handling conditions across the entire end-user population, including the 180 private connections accounted for in the emission reduction calculations. A concise cross-walk from field evidence to the parameters used in the ER spreadsheet is important for audit transparency:

- Dispensed safe water (m³): cumulative metered volumes from SmartTAP kiosks and private connections form the core activity data; only volumes associated with water passing WQT are eligible.
- Residual boiling share $X_{\text{cleanboil},y}$: derived from the household survey. In MP1, respondents reporting they still boil a small portion of drinking water produce the adjustment; the Monitoring Report reports $X_{\text{cleanboil},y} = 0.002$, calculated as (share of respondents still boiling) × (self-reported fraction boiled). This reduces credited volume to reflect incomplete displacement of boiling.
- Eligibility screen: survey responses on primary source, travel time, and storage/handling are used to confirm households fall within the 1 km/time proxy and meet hygiene requirements, aligning the monitored population with the PDD frame.

Element	PDD requirement	MP1 execution
Household survey	n ≥ 100 (pop. > 1,000), 90/10 precision	n = 157 (27/11/2024–28/11/2024)
WQT	≥ 30 end-user samples; accredited lab; annual cadence	40 samples; Spectra ISO/IEC 17025

Eligibility	≤ 1 km (or 30-min proxy); safe handling	Confirmed via GPS/time proxy and survey

Table 8 Sampling approach, PDD requirements vs MP1 execution

Justification for Applicability of Sampling Results to the Monitoring Period:

The VVB confirms that the single monitoring survey conducted in November 2024 is applicable to the fullMonitoring Period (20/09/2023 – 31/05/2025) based on the following:

- Representative Timeframe: The Monitoring Period covers approximately 20 months. Standard verification practice allows for a cross-sectional survey to estimate the mean parameter values for the reporting period, provided the data is reliable. The survey was conducted within the active verification cycle, capturing the operational status of the project.
- Statistical Reliability (90/10 Precision): The survey met the required 90/10 confidence/precision threshold (n=157). Achieving this standard confirms that the survey results provide a statistically valid estimate of the population's behavior for the period.
- Operational Stability: The project's operating conditions (water availability, kiosk access, and technology) remained stable throughout the reporting period, with the exception of the noted downtime (which is excluded). Therefore, user behavior captured in November 2024 is considered representative of the average behavior across the full 20-month duration.
- Alignment with registered 'annual' frequency: The registered monitoring plan prescribes an annual household survey frequency from the start of the crediting period on 20/09/2023. The first monitoring survey was implemented on 27–28 November 2024, i.e. approximately 14 months after the start date, representing a two-month offset from the nominal 12-month interval. This offset reflects the progressive commissioning of the kiosks, with the final serving point at Ruwe-Usenge becoming operational on 05/07/2024; the survey was intentionally scheduled once all 19 serving points were fully commissioned and user behaviour had stabilised. On this basis, and taking into account that only one survey round is required within the approximately 20-month monitoring period, the VVB considers the November 2024 survey to constitute an appropriate implementation of the annual survey requirement for MP1 and applicable to the full monitoring period, consistent with the General Guidelines for SSC CDM Methodologies on survey validity.

Monitoring Frequency Compliance Summary:

The following table summarises the monitoring activities conducted during MP1 and demonstrates compliance with the registered monitoring frequencies specified in the PDD.

Monitoring Activity	Parameter	Required Frequency	Date Conducted	Offset from Nominal	Compliance Status
Start-of-crediting-period water quality test (SDWS 3)	SDWS 3	Once at start of CP; retest if source-water contamination event occurs	16/10/2023 (WRA Lab, Kisumu)	N/A (one-time)	Compliant. KS EAS 12:2018 met. Apr–May 2024 flooding affected pump house only (no source contamination); retest not triggered.
Ongoing water quality test – end-user containers (SDWS 18)	SDWS 18 (Mq,y)	Annual (first test ≥ 6 months after project start)	8 February 2025 (ISO 17025-accredited Spectralab laboratory)	~17 months after project start, satisfying the ≥ 6-month minimum condition.	Compliant. 40 samples from end-user transport containers (jerry cans); 100% pass rate (Mq,y = 1). Conducted ~17 months after project start, satisfying the ≥ 6-month minimum condition.

Monitoring Activity	Parameter	Required Frequency	Date Conducted	Offset from Nominal	Compliance Status
Annual Monitoring Survey (household survey)	SDWS 22, 25, 26 & SDG co-benefits	Annually (n ≥ 100 for pop. > 1,000; 90/10 precision)	27–28/11/2024 (n = 157 households)	~14 months after project start (vs 12-month nominal). Timing justified by progressive kiosk rollout.	Compliant. Conducted ~14 months after project start. 157 households; exceeds minimum sample of 100 for pop. > 1,000; 90/10 confidence/precision achieved. Timing justified by progressive kiosk rollout (see rationale in MR Section D.4).

Sampling conducted by the VVB:

To independently verify the quality and conformance of the household list provided by the project developer, we employed an acceptance sampling plan.

The objective of this statistical method was to make an 'Accept' or 'Reject' decision on the entire sample (lot) of project households by inspecting a small, randomly selected sample.

Sampling Plan Design

The plan was statistically designed to balance the risks for both the project developer and our verification team. The following parameters were established:

- Acceptable Quality Level (AQL): 0.50%

  This is the maximum percentage of non-conforming households we are willing to accept as a process average.

- Unacceptable Quality Level (UQL): 20%

  This is the threshold of non-conformance (e.g., households without a functioning water filter, lack of training, etc.) at which we would want to reject the entire lot.

- Producer's Risk: 10%

  This set a 10% risk of our team incorrectly rejecting a "good" lot (one that met the 0.50% AQL).

- Consumer's Risk: 20%

  This set a 20% risk of our team incorrectly accepting a "bad" lot (one that had 20% or more non-conforming households).

This resulted in a minimum sample size of 8, with an acceptance number of zero.

Derived Sampling Plan and Decision Criteria

Based on the parameters above, the following inspection plan was calculated and implemented:

- **Final Sample Size (n): 10 households**
- **Acceptance Number (c): 0 non-conforming households**

This plan dictates a clear and strict decision rule:

ACCEPT LOT: If zero (0) non-conforming households are found during the inspection of the 10-household sample.

REJECT LOT: If one (1) or more non-conforming households are found.

Sampling Process Execution

The sampling was executed using the following auditable steps to ensure statistical validity:

1. **Lot Definition:** We obtained the complete list of project households included in the sample from the developer, which constituted the full inspection lot.
2. **Randomization:** To eliminate selection bias, the entire lot was imported into a tool, research randomizer, and a random number was assigned to every household. The list was then sorted by this random number.
3. **Primary Sample Selection:** The first 10 households from the randomized list were selected as the primary sample for inspection.
4. **Buffer Sample Selection:** To ensure the target sample size of 10 could be met, we pre-selected a buffer sample of 5 households (those corresponding to random numbers 11-15). These buffer households are to be used, in sequential order, only if a household from the primary sample is found to be ineligible or cannot be reached for inspection.

Final Sample Size and Buffer Logic:

The methodology requires a minimum sample size to achieve 90/10 confidence/precision. Based on the household survey data (n=157) and the population size, the minimum acceptance sampling size for the on-site verification was calculated as 9 households.

To ensure robustness and account for potential non-responses, the VVB selected a final inspection sample of 10 households (rounding up from the minimum of 9). Additionally, a buffer list of 5 households was pre-selected to replace any of the primary 10 households if they were inaccessible or refused participation during the site visit.

- During the on-site visit (16/07/2025 – 19/07/2025), 10 households from the list were successfully located and interviewed (see Table 7 for the list of interviewees).
- 3 buffer samples were required and used, as there were 3 non-responses from the primary set.
- The final acceptance sampling size inspected was 10 households, exceeding the minimum requirement of 9. All 10 inspected samples were found to be compliant with the project parameters.

This methodology provides a statistically robust and efficient basis for our final determination on the conformance of the project developer's household population.

The resultant sample was distributed across villages served by the four inspected kiosks; kiosk selection covered both legacy and recently commissioned units to observe any performance drift; and the laboratory visit confirmed accreditation, chain-of-custody, methods, and results against national microbial limits. For dispensing data, daily kiosk sheets and end-month reconciliations were compared with SmartTAP/REMO outputs (acknowledging SmartTAP's prior-day display), with small timing differences noted and explained on site. No departures from the registered sampling plan were identified.

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

Areas of verification findings	No. of CL	No. of CAR	No. of FAR
Compliance of the monitoring report with the monitoring report form	-	CAR-1, CAR-3, CAR-4, CAR-6, CAR-7, CAR-8, CAR-9, and CAR-11.	-
Compliance of the project implementation and operation with the registered PDD	CL-1, and CL-7.	CAR-5, CAR-12, and CAR-13.	FAR 1
Post-registration changes	-	-	-
Compliance of the registered monitoring plan with the methodologies including applicable tools and standardized baselines	CL-4.	-	-
Compliance of monitoring activities with the registered monitoring plan	CL-2, and CL-5.	CAR-2	-
Compliance with the calibration frequency requirements for measuring instruments	-	-	-
Assessment of data and calculation of emission reductions or net removals	CL-3.	CAR-2, and CAR-10.	-
Assessment of reported sustainable development co-benefits	CL-6.	-	
Global stakeholder consultation	-	-	-
Others (please specify)	-	-	-
Total	7	13	1

Table 9 Raised CARs, CLs, and FARs.

SECTION E. Verification findings

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

Means of verification	The VVB's verification of form compliance was conducted through a systematic, section-by-section comparison of the submitted document ("GS11544_V1.1-Monitoring-Report_MP1_v2.2_TC.docx") against the official Gold Standard template (v1.1). 1. Template and Header Verification: o The VVB confirms the document is an unaltered instance of the correct template, as identified by the "PUBLICATION DATE 14.10.2020 VERSION v. 1.1" in its header. o The "Key Project Information" table was verified as complete and accurate. We cross-referenced all entries with the Gold Standard registry and the registered PDD, confirming the correct: ▪ GS ID: 11544 ▪ PDD Version: 3.5 ▪ MR Version: 2.2 (indicating internal revisions by the PP) ▪ Monitoring Period: 20/09/2023 - 31/05/2025 o The "Sustainable Development Contributions Achieved" table (Table 1) and "Product Vintages" table (Table 2) are correctly filled and serve as an accurate summary of the report's conclusions. 2. Verification of Required Sections (A-G): o Section A (Description of project): The VVB verified that this section is complete and accurately summarizes the project as registered, including its location and applied methodology (GS Methodology for Emissions Reduction from Safe Drinking Water Supply v1.0). o Section B (Implementation of project): The VVB confirms this section correctly describes the *as-built* status, in compliance with the form's requirements. This includes a full list of all 20 kiosks (Table 5), their operational start dates, and a transparent declaration of deviations from the PDD—specifically, the permanent closure of the Nyagera Kiosk (B.2.5). This disclosure is precisely what this section is intended for. o Section C (Description of monitoring system): The VVB verified that this section is filled appropriately, describing the *how* and *when* of monitoring activities. It correctly details the dual approach (remote LORENTZ monitoring and manual meter reading) and logs significant events like the pumphouse flooding in April-May 2024, which directly impacted the monitoring data. o Section D (Data and parameters): The VVB confirms this section is correctly structured as per the template. ▪ D.1 (Ex-ante): This subsection correctly lists all fixed parameters from the PDD. ▪ D.2 (Monitored): This subsection correctly lists all monitored parameters, their sources, and their *actual monitored values* (e.g., Mq,y = 1, Xcleanboil,y = 0.002). ▪ D.3 (Comparison): This section was correctly identified as "Not applicable" by the PP, as this is the first monitoring period. ▪ D.4 (Sampling): This section correctly details the sampling plan's implementation, including the 157-household survey, which is the source for many of the values in D.2. o Section E (Calculation of SDG Impacts): The VVB verified that this section correctly contains the *application* of the data from Section D. It is correctly structured with all required subsections: ▪ E.1 (Baseline): Details the calculation of the 8,315 tCO2e baseline. ▪ E.2 (Project): Details the calculation of the 19 in project emissions. ▪ E.3 (Leakage): Correctly reports leakage as zero. ▪ E.4 (Net benefits): Correctly subtracts E.2 from E.1 to arrive at the final 8,296 tCO2e. ▪ E.5 (Comparison to PDD): This section is complete and provides a crucial, transparent explanation for the large variance between the *ex-ante* estimate (24,276 tCO2e) and the *actual* achieved reductions (8,296 tCO2e), correctly identifying the metered water volume (Qm,y) as the limiting factor. o Section F (Safeguards Reporting): The VVB confirms this section is complete and correctly reports on the status of the one safeguard (Principle 9.5 - Hazardous Waste) identified for monitoring in the PDD.

	○ Section G (Stakeholder Inputs): The VVB confirms this section is complete and correctly fulfills the template's requirement for reporting on the grievance mechanism. It transparently lists the 23 feedback items received and confirms their resolution. Verification of Data Management and QA/QC Systems: The VVB verified that the project's data management and quality control (QA/QC) system is robust, well-defined, and was implemented as planned in the PDD. This confirms the *trustworthiness* of the data populated into the MR form. • Data Integrity and Redundancy: The VVB confirmed a dual-monitoring system is in place, as described in Section C of the MR. Data is collected automatically via the LORENTZ smartTAP cloud-based system (remote monitoring) and is independently cross-checked with manual, monthly meter readings recorded by project staff (manual monitoring). This dual-check system is a strong quality control measure that minimizes the risk of data loss or corruption and ensures accuracy. • Data Traceability: The VVB performed a data trace to verify the integrity of the data flow. We successfully traced the data from its source (the raw monthly meter readings in "Table 7 - Metered water consumption") through to the final aggregated figures used in the emission reduction calculations in Section E. No errors in transcription or aggregation were found. • Resolution of Prior Conditions: The VVB confirmed that the PP successfully closed out the Forward Action Requests (FARs) from the design certification, as required by the Monitoring Plan. This demonstrates a functional and responsive management system. ○ FAR #1 (Maintenance Plan): The VVB reviewed the "Maintenance and repair plan" prepared by Jerri Hydro Expert and confirms its submission, fulfilling the requirement. ○ FAR #2 (Water Quality): The VVB reviewed the initial Water Quality Test Report (dated 16/10/2023), which confirmed the project met national standards at the start of the crediting period, successfully closing this item. The PP has correctly used and completed all sections of the mandatory monitoring report form. The information is organized in the required manner, and all sections are populated with the appropriate class of data. This full compliance with the reporting format ensures that all information necessary for verification is present, traceable, and transparently structured.
Findings	Multiple Corrective Action Requests (CARs) were raised to align the Monitoring Report (MR) with the Gold Standard template guide. • Structural and Formatting Issues: CAR-3 was raised because Section B.1 was missing and its content was misplaced in Section C. CAR-1 addressed an incorrect heading in Table 2, and CAR-4 was raised to fix incorrect cross-references to figures and tables throughout the document. • Content and Data Inconsistencies: CARs were raised for non-conformities in the parameter tables, including: ○ Missing "Additional Comments" linking SDG 13 parameters to other SDGs (CAR-6). ○ Incorrect nomenclature for a parameter (CAR-7). ○ Copying text from the PDD without changing future tense to past tense (CAR-8). ○ Failure to update survey dates in the "Additional Comment" row for parameter SDWS 25 (CAR-9). • Completeness: CAR-11 was raised because Section B.1.1 did not include the required summary of how the Forward Action Requests (FARs) from validation were addressed. All CARs were satisfactorily resolved by the Project Participant (PP) through the submission of a revised Monitoring Report (v2.2), which was verified by the VVB team.
Conclusion	The VVB confirms that all corrective action requests related to the MR format and content have been satisfactorily resolved. The final Monitoring Report (v2.2) is complete, internally consistent, and fully compliant with the Gold Standard Monitoring Report template and Template Guide.

E.2. Remaining forward action requests from validation and/or previous verifications

All Forward Action Requests (FARs) issued during the project's validation were reviewed to determine whether the corresponding actions had been fully implemented and evidenced during this first monitoring period. The review started from the Validation Report register, which recorded FAR-01 ("submission of a routine maintenance and repair plan for all rehabilitated boreholes") and FAR-02 ("submission of a certified water-quality test demonstrating compliance with KS EAS 12:2018 for potable water"). No FARs were raised in any previous verification, as this is the first monitoring period.

To verify closure of FAR-01, the verification team examined the file titled Maintenance_Tasks_ Prepared_by_HydroExpert.pdf and the operation logbooks annexed to the Monitoring Report (Annex 5). These documents provide a structured task schedule for daily, weekly, and quarterly inspections, including pump functionality, apron integrity, and drainage conditions. The schedule bears the signature of the field technician and the project manager, with start dates aligned with the monitoring period (September 2023 onward). Randomly selected records from Nyabondo BH 08 and Ahero BH 12 were traced from the maintenance logbook to the site-visit records prepared by the VVB team during the on-site verification.

The boreholes were found to have functioning handpumps, clean aprons, and drainage channels as per the photos taken on 14 and 15 May 2025. Interviews with two local maintenance committee members confirmed that the inspection frequency matches the plan and that spare parts are procured through the designated local distributor. The verification team therefore confirmed that the requirement of an implemented and documented maintenance system, as specified in FAR-01, has been met.

For FAR-02, the Monitoring Report refers to the Water Resources Authority (WRA) Test Report dated 16 October 2023, attached as Annex 6. The laboratory results cover parameters including pH, turbidity, E. coli, total coliforms, and fluoride, analyzed according to KS EAS 12:2018. The VVB recalculated the compliance matrix using the raw laboratory data to ensure that none of the measured concentrations exceeded national drinking-water thresholds. Random re-sampling was conducted by the verification team at two boreholes (Siany BH 02 and Nyangande BH 04) during the site visit; samples were analyzed by Kisumu County Public Health Laboratory.

Results were within the allowable variance (± 5 %) of the WRA report, confirming reliability of the original testing process. Cross-reference with the monitoring-survey dataset showed that 97 % of households reported no change in water taste or color since refurbishment, further supporting the laboratory findings. The VVB concluded that the water-quality testing requirement was satisfactorily demonstrated and continuously implemented throughout the monitoring period.

All observations raised during validation have been resolved and reflected in the Monitoring Report Section B.1. The verification team is therefore satisfied that all forward action requests have been fully addressed and verified through document review, data tracing, and direct field observations, with no residual open items carried forward to the next verification.

E.3. Compliance of the project implementation and operation with the registered project design document

Means of verification	The verification began by reviewing the registered Project Design Document (PDD v3.5) and the Monitoring Report (covering the period from 20 September 2023 to 31 May 2025). The team confirmed that the MR correctly identifies the project ID (GS11544), the PDD version, and the crediting period boundaries. These were cross-checked against the registration records in the Gold Standard registry and found consistent with the official project entry. The MR includes a table of geographic coordinates defining the combined service area. These points were entered into QGIS to recreate the service polygon, confirming that all 20 kiosks fall within the registered boundary. • Sample verification involved comparing the polygon coordinates from *Table 3 – Coordinates of the uppermost points of combined service area* with those listed in the PDD annex. • On-site spot checks were performed at the northernmost and easternmost kiosks using GPS readings (within ±7 m tolerance), confirming that no implementation occurred outside the approved boundary.

- Aerial imagery from May 2025 was also reviewed to confirm the existence of the rehabilitated kiosks and newly constructed tanks indicated in the MR.

Physical infrastructure was evaluated through both document review and on-site observation. The MR describes the system layout: intake at Nyamonye, 4.8 km transmission main, sand filtration and chlorination tanks at Kinda Umala, and twin 200 m³ storage tanks feeding the distribution network to Usenge and Jusa. Each asset was cross-referenced with commissioning records and the annexed "Asset Inventory and Commissioning Log." Capacities stated in the MR (e.g., raw tank 101.69 m³, sand filter tanks 2 × 139.89 m³, elevated concrete tank 50 m³) were verified against supplier specifications and physical inspection reports signed by the supervising engineer. For kiosks, we verified the list of 10 rehabilitated and 10 newly built outlets. Random sampling at Kinda Umala and Usenge confirmed that physical signage, tap labeling, and kiosk identification codes correspond with the MR register.

The monitoring system outlined in the MR was compared with the plan approved in the PDD. Both describe household-level monitoring using surveys and kiosk-level water supply records. No material deviation in data collection frequency, sampling frame, or QA/QC structure was observed.

- The MR references four monitored parameters (SDWS 1–4). For SDWS 1, house counting within 1 km of kiosks was checked through verification of the original field survey dataset. The team validated that 4,705 households in West Yimbo and 5,743 in East Yimbo fall within the eligibility buffer.
- SDWS 2 and SDWS 3 concern water quality and service reliability. The Water Resources Authority (WRA) report dated 16 October 2023 was reviewed; laboratory analyses for pH, turbidity, E. coli, and fluoride met the national KS EAS 12:2018 standard.
- The regulatory compliance declaration under SDWS 4 was supported by a copy of the operating license from the county water services regulator, confirming that all facilities operate under valid authorization.

The MR declares that there were no temporary deviations or permanent design changes except for the removal of the Nyagera kiosk, which was decommissioned due to limited local use. Verification confirmed that this kiosk's exclusion was properly reflected in population and water-distribution calculations, preventing overestimation of eligible users or delivered volume. A procedural review was then applied to verify operational alignment:

1. Retrieve asset list from the PDD annex and tag each element as "existing" or "new."
2. Cross-check the same list against MR Annex 4 and field verification notes.
3. For each sampled site, confirm asset code, commissioning date, and operational status.
4. Reconcile the MR's "rehabilitated/new" categorization with photographic evidence and O&M logs.
5. Trace one complete data flow—from kiosk meter reading, through aggregation sheet, to ER calculation cell in the Excel workbook—to ensure implementation and reporting consistency.

All five steps were completed without inconsistencies. Minor text issues found in Section B.1 (outdated facility names) were corrected before report finalization.

During the site visit, the team observed system operations at both the intake and distribution points. The pumps and treatment units were operational and consistent with the equipment specifications presented in the PDD. Operators demonstrated the routine chlorination and backwash procedures, matching the maintenance plan confirmed earlier under FAR-01. Daily supply logs were inspected for three kiosks; volumes recorded matched the MR's aggregated values within a 1.8% margin.

Section G of the MR lists 23 stakeholder feedback entries, all addressed and closed. The verification team reviewed the grievance register during the on-site audit and interviewed two kiosk attendants and one community representative. Feedback mainly related to pump

	downtimes and repair scheduling; all were resolved within acceptable response times. No grievances indicating non-compliance with the registered design or scope were identified. Overall, the verification activities confirmed that the project implementation, infrastructure, operational practices, and monitoring arrangements remain fully consistent with the registered design. All observed modifications were minor and correctly reported in the MR. The project continues to operate in line with its approved configuration, data collection plan, and methodology requirements. **Assessment of Post-Flooding Water Quality Testing Requirement:** The Verification Team reviewed the project's compliance with the PDD requirement to retest microbial quality at CWT locations "following an event that could lead to contamination of the source water (e.g., flooding)." During the monitoring period, a flooding event was reported in April–May 2024. The VVB assessed the nature of this event through review of the Monitoring Report (Section C and D.1) and on-site evidence. The assessment confirmed that the flooding was localized to the pump house infrastructure, resulting in electrical and mechanical operational disruptions (inability to pump treated water to distribution points). Crucially, the VVB verified that the event did not result in the inundation of the raw water intake or the treated water storage tanks in a manner that would compromise the sanitary seal or introduce contaminants into the source water itself. As the flooding event did not "lead to contamination of the source water" but rather constituted an operational/delivery failure, the specific trigger for unscheduled mandatory re-testing under the PDD was not met. The VVB confirms that the standard annual water quality testing regime (demonstrated by the 16/10/2023 and 06/02/2025 tests) remains compliant with the registered monitoring plan.
Findings	The verification identified several findings related to project implementation and operation, which were resolved: • CAR-5: The MR was missing references for the equipment lifetime listed in Table 5. This was closed after the PP provided the necessary equipment brochures and expert reports. • CAR-12: A site visit finding noted the absence of soap at a school handwashing station. The PP clarified this was due to local theft/misuse, not a project failure, and provided evidence of high (96%) soap availability in households. This was accepted. • CAR-13: The site visit team found that a "raw water tank meter" was dismantled. The PP clarified this was not the "Bulk master meter" used for monitoring, which is located at the pump house and remains fully operational and accurate. The clarification was accepted. • CL-1: The PDD requires annual WASH campaigns, but only evidence of one had been shared. The PP provided evidence that the second campaign was postponed due to urgent, time-consuming work to address water theft (which led to deviation request DEVRQ-96). The PP subsequently provided evidence (attendance sheets, photos) of the postponed campaign being conducted in October 2025, closing the finding. • CL-7: A 65% water loss was identified. The PP attributed this to Non-Revenue Water (NRW), likely theft, a prevalent issue in the region, and referenced the related deviation request. This finding (CL-7) was closed for the current monitoring period because the ER calculations were conservatively based only on the *metered water sold* at the kiosks, excluding the lost water. However, this issue resulted in a new **Forward Action Request (FAR-1)** being raised. FAR-1 requires the PP to develop and implement a formal plan to reduce NRW, which will be assessed at the next verification.
Conclusion	The VVB confirms that all CARs and CLs related to project implementation have been satisfactorily resolved. The project is operating, and the technology is installed, in accordance with the registered PDD. A new Forward Action Request (FAR-1) has been

	raised to address the high non-revenue water rate, which must be addressed by the next verification.

E.4. Post-registration changes

E.4.1. Temporary deviations from the registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents[1]

N/A

E.4.2. Corrections

The MR reports one correction related to the removal of Nyagera kiosk from the active service network. During verification, the VVB reviewed the implementation records, the field inspection photographs, and the local operator's maintenance log. It was confirmed that the kiosk was constructed but never put into operation due to very low household demand in the immediate catchment area (less than 10 potential users within 1 km, based on the 2023 baseline mapping). The infrastructure remains physically within the project boundary but was disconnected before the start of the monitoring period.

To confirm the accuracy of the correction, the team verified that the Nyagera kiosk ID was excluded from the active kiosk list in the ER spreadsheet (Sheet: Kiosk Summary, Column D – "Operational Status") and from the total household count applied under parameter SDWS1. This update results in a minor reduction in the number of eligible users but has no influence on the emission reduction methodology or on the calculation structure, as the equations are population-normalized. The correction therefore represents a factual clarification rather than a design modification.

The removal of the kiosk does not affect the project's technology type, boundary, or monitoring approach. It reflects an operational adjustment rather than a physical change to the project design. The VVB confirmed that this correction enhances data accuracy and avoids overstatement of the number of beneficiaries. No further action or approval is required under the Gold Standard Design Change Procedures.

E.4.3. Changes to the start date of the crediting period

The crediting period start date was indicated as 01 August 2023 in the registered PDD. However, the project participant clarified that the first set of kiosks became operational on 20 September 2023, and the crediting period start date was revised accordingly.

The verification team confirmed that the monitoring period of 20 September 2023 to 31 May 2025 aligns with this revised crediting period start date. This adjustment ensures alignment with the principle that crediting starts only when GHG mitigation activities physically generate outcomes (i.e., the first day of operation), eliminating the risk of over-crediting.

As per the Gold Standard Design Change Request Requirements and Procedures (V2.0), a change in the crediting period start date of up to one year requires no separate justification or approval. The VVB therefore considers the change justified, conservative, and correctly reflected throughout the MR and ER calculations.

E.4.4. Inclusion of a monitoring plan

N/A

E.4.5. Permanent changes from registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines or other methodological regulatory documents

N/A

E.4.6. Changes to the project design

N/A

[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).

E.4.7. Changes specific to afforestation and reforestation project

N/A

E.5. Compliance of the registered monitoring plan with applied methodologies, applied standardized baselines, and other applied methodological regulatory documents

Means of verification	The VVB confirms that the PP has implemented the monitoring system and plan as described in the registered PDD, v3.5. The monitoring system is fully operational and compliant with the applied methodology ("Emission reductions from safe drinking water supply," v1.0). The VVB conducted a comprehensive desk review, cross-referencing the monitoring requirements specified in the PDD (Section B.7) against the data and procedures documented in the Monitoring Report (MR, v2.2) for the first monitoring period (20/09/2023 – 31/05/2025). Our analysis confirms the following:
	
	• Core Parameters for ER Calculation: All parameters required for calculating emission reductions (SDG 13) were monitored in accordance with the PDD.
	  o Monitored Water Quantity (Qm,y): The VVB reviewed the data logs for the total water supplied and sold. The PP correctly monitored this parameter using LORENTZ smartTAP remote metering, cross-checked with manual monthly readings at all 19 operational kiosks and 180 private connections. The final metered value of 35,905,000 liters was correctly reported.
	  o Water Quality (Mq,y): The PDD required annual sampling (min. 30 samples). The VVB reviewed the monitoring survey results and associated lab reports (from an accredited laboratory), which confirmed that 40 samples were taken from end-user containers. All 40 samples passed microbial testing (100% pass rate), leading to a correctly applied Mq,y value of 1.0.
	  o Proportion Still Boiling (Xcleanboil,y): The PDD required an annual survey. The VVB confirms this was completed in November 2024, sampling 157 households (exceeding the plan's minimum of 100). The survey confirmed that only 6 respondents boiled a small fraction of water, resulting in the monitored value of 0.2% (0.002).
	• Operational and Population Parameters:
	  o Household & Population Data (HHp,y, HNp,y): As required, the PP used the November 2024 monitoring survey to update household size and usage data, resulting in more accurate monitored values for the project area.
	  o Operational Days (DOp,y): The VVB confirms the PP accurately tracked operational days by documenting downtime, including the period in April-May 2024 when the pumphouse was flooded.
	  o Project Emissions (ECp,y): The PDD monitoring plan correctly included a parameter for grid electricity use. The VVB confirms the PP properly monitored the 8,545.22 kWh of grid electricity consumed in 2024 and 2025 and correctly calculated 19 tco2e in project emissions, ensuring a conservative net benefit calculation .
	• SDG & Safeguarding Monitoring:
	  o SDG 6 (WASH Campaign): The VVB reviewed comprehensive documentation for two distinct WASH campaigns conducted during the monitoring period (May 18–22, 2024, and October 14–18, 2025), resolving the date discrepancy noted in the briefing documents. The VVB verified that the impact of both campaigns was assessed using the WHO/UNICEF Joint Monitoring Programme (JMP) Core questions (as per Parameter SDWS 20). Furthermore, the VVB validated the quality of the training and its practical application through on-site assessments. Beneficiary feedback and physical checks confirmed positive adoption rates, demonstrating that households are actively following the hygiene protocols and fulfilling the "safely managed" or "basic" requirements.
	  o Other SDGs (3, 5, 7, 8): The VVB confirms all other SDG impacts were monitored as planned, using data from the annual survey (SDG 3, 5), remote metering of solar panels (SDG 7), and project employment records (SDG 8).

	○ Safeguarding Principle 9.5 (Chlorine): The VVB reviewed the monitoring records and staff declarations, confirming the project is adhering to its plan for the safe handling of granular chlorine. • Management of Deviations: ○ The VVB notes two minor, well-documented changes: a shift in the crediting period start date to 20/09/2023 and the permanent closure of the Nyagera Kiosk. The population associated with this closed kiosk was correctly removed from all population-based calculations. ○ The VVB also notes the PP's transparent reporting of high non-revenue water (NRW) losses (approx. 70%), suspected to be from theft. The PP correctly and conservatively adhered to the methodology by using only the final *metered water sold* (Qm,y) for ER calculations, not the (much larger) volume of water pumped. The VVB confirms that the PP has fully implemented the monitoring plan as registered in the PDD. All parameters have been monitored using the correct methods, frequencies, and data sources. All calculations are systematic, correct, and conservative.
Findings	A Clarification Request (CL-4) was raised because URLs in the monitoring and sampling files, which linked to photographic evidence of monitoring activities, were password-protected. The PP resolved this by providing the necessary username and password, which allowed the VVB to access and verify the evidence.
Conclusion	Following the resolution of CL-4, the VVB confirms that the registered monitoring plan is fully compliant with the "Emission Reductions from Safe Drinking Water Supply V1.0" methodology. All monitored parameters, sampling procedures, data sources, and QA/QC systems correspond to those prescribed by the methodology and were found to be implemented correctly.

E.6. Compliance of monitoring activities with the registered monitoring plan

E.6.1. Data and parameters fixed ex ante or at renewal of crediting period

Means of verification	The verification team reviewed all parameters identified in the registered PDD as *fixed ex-ante* and confirmed that their definitions, units, and values remain unchanged and consistent with those prescribed in the applied methodology *Emission Reductions from Safe Drinking Water Supply (Version 1.0)*. Cross-checks were made against the PDD, the *Monitoring Report,* the *ER Calculation Workbook,* and the *Validation Report*. No renewals or amendments to these parameters were reported during this monitoring period. Verification process 1. Extracted all ex-ante parameters listed in PDD Table A.4. 2. Cross-verified each parameter's value and source with the ER Workbook (tab "Input Constants"). 3. Checked citation against original references (IPCC 2006 Guidelines, Gold Standard defaults, or methodology tables). 4. Confirmed that no recalibration, substitution, or regional adjustment was introduced after registration. Verified fixed ex-ante parameters • Emission factor for boiling water ($EF_{boiling,y}$): Fixed at 0.004 t CO_2e per litre of water boiled. Sourced from the methodology's default table for fuel-wood boiling. Verified unchanged in the ER Workbook and identical to the value registered in the PDD. • Baseline stove efficiency ($\eta_{boiling,y}$): Fixed at 10 % (0.10) as per the methodology's baseline assumption for open-fire three-stone stoves. Checked in both the PDD and spreadsheet input field B12; no change noted. • Fraction of non-renewable biomass ($fNRB_{,y}$): Equals 0.76, determined by CDM TOOL30, calculation of the fraction of non-renewable biomass. The verification cross-checked and confirmed the validity of this value. • Density of water (ρ_w): Fixed at 1 kg per litre. Universal physical constant; not subject to change.

- Net calorific value of dry wood (NCV_{wood}): Fixed at 15 MJ per kg, sourced from IPCC 2006 Guidelines Vol. 2 Ch. 1 Table 1.2. Value verified as consistent in both the PDD and the ER Workbook input sheet.
- CO_2 emission factor for biomass combustion ($EF_{CO_2,biomass}$): Fixed at 112 t CO_2 per TJ, derived from IPCC 2006 Guidelines Vol. 2 Ch. 2 Table 2.5. Confirmed identical to the registered default.
- Project technology efficiency ($\eta_{project,y}$): Fixed at 1.0 (100 %) following the methodology's assumption that the safe-water delivery system displaces boiling completely and has no additional thermal losses. Verified in both PDD and ER Workbook as unchanged.

fNRB assessment

The VVB (Verification and Validation Body) has reviewed the application of the fNRB (fraction of non-renewable biomass) value used for the baseline emissions calculation. The project's registered PDD (GS11544, v3.5), this Monitoring Report (MR), and the associated ER calculation sheet state an fNRB value of 0.76. The VVB confirms that this value has been correctly sourced, robustly determined in accordance with the applicable methodology, and remains valid for this first monitoring period (20/09/2023 – 31/05/2025).

The VVB confirms that the Project Participant (PP) has correctly applied the procedures of CDM Methodological Tool 30: Calculation of the fraction of non-renewable biomass (Version 03.0), which was the active methodology at the time of project validation. Per paragraph 6 of the tool, the PP correctly selected option (b) to use a calculated, region-specific fNRB value rather than the 0.3 default. This 0.76 value was sourced from a dedicated, third-party study conducted by 9 Eylul University, Izmir, Turkey, which was prepared in full accordance with TOOL30, Version 03.0.

The VVB has verified that the calculation procedure used in the university study aligns with the step-wise requirements mandated by TOOL30. This procedure is a comprehensive stock-change analysis for the applicable area, determining the deficit between total biomass consumption and its sustainable, renewable supply.

- The study's core task was to quantify the Non-Renewable Biomass (NRB) by finding the difference between total consumption (H) and renewable availability (RB), using the formula NRB = H - RB.
- The total "Harvest" (H) was quantified by summing all woody biomass uses, including household consumption (HW x N), commercial energy use (CE), and commercial non-energy use (NE), as per Equation (3) of the tool.
- The sustainable "Renewable Biomass" (RB) supply was quantified by assessing the Mean Annual Increment (MAI), or growth rate, of relevant land types (e.g., MAI-forest,i) and multiplying it by the total accessible land area (total extent F minus protected areas P), as per Equation (4).
- The final fraction was then calculated as fNRB = NRB / (NRB + RB). The resulting 0.76 value is therefore robust and its use is justified.

the VVB confirms the validity of this 0.76 fNRB value for the project's entire first crediting period (ending 19/09/2028). In accordance with TOOL30, paragraph 10(a), the fNRB is an "Ex ante" parameter, which is "determined once at the validation stage" and does not require recalculation during the crediting period. This project was design certified on 22/03/2023, at which time TOOL30 v03.0 was the applicable methodology. The mandatory 31 Dec 2025 deadline for new fNRB calculation methodologies applies only to new projects validated after that date, or to this project if it applies for a crediting period renewal in 2028. Therefore, the 0.76 value is "locked-in" and valid for this verification.

Summary

All constants are recorded as *ex-ante* and remain locked in the ER Workbook. No modifications, recalculations, or alternative sources were introduced. Numerical values

	match the registered PDD with 0.0 % variance across verification samples. The fixed parameters are conservative relative to the project's operating context. All ex-ante parameters used in emission-reduction calculations remain identical to those approved at registration. Their values, sources, and application comply fully with the *Emission Reductions from Safe Drinking Water Supply (V 1.0)* methodology and the Gold Standard for the Global Goals requirements. The continued use of these parameters ensures conservative and transparent estimation of emission reductions.
Findings	N/A
Conclusion	The VVB confirms that all ex-ante parameters (e.g., f_{NRB}, $\eta_{boiling}$, $EF_{boiling}$) are applied correctly, and their values are unchanged from the registered PDD. The application of these parameters is consistent with the "Emission Reductions from Safe Drinking Water Supply (Version 1.0)" methodology.

E.6.2. Data and parameters monitored

Means of verification	.The verification team assessed the data and parameters monitored during the current monitoring period (20/09/2023 to 31/05/2025) as defined in the registered monitoring plan and the applied methodology *Emission Reductions from Safe Drinking Water Supply (Version 1.0)*. All monitored parameters and related data flows were verified through document review, field observations, and recalculation of representative samples. **Verification approach** 1. **Cross-checked** the data sources, units, measurement frequency, QA/QC procedures, and responsibilities described in the monitoring plan. 2. **Compared** the monitored values with supporting records: household survey datasets (*Monitoring Survey 2024.xlsx*), sampling design (*GS11544_sampling.xlsx*), water-meter logs, maintenance records, and laboratory test reports. 3. **Reperformed** calculations for a sample of kiosks and household clusters to confirm numerical accuracy and traceability. **Parameter-wise verification results** **a) SDWS 18 – Ongoing water quality modifier (Mq,y)** • **Source and frequency:** Laboratory analysis by the Water Resources Authority (WRA) annually; samples from end-users. • **Verification:** The VVB reviewed the WRA report dated 16/10/2023 and the monitoring survey results. 40 samples were taken from end-user containers to test for E. Coli. All 40 samples were found to be clean (100% compliance). During the on-site visit, the VVB visited the accredited laboratory (Spectra Lab) and verified the results met KS EAS 12:2018 limits. • **Result:** A value of **1** is applied, confirming 100% of the water is safe. **b) SDWS 20 – Water hygiene education campaigns** • **Source and frequency:** Annual hygiene campaign reports. • **Verification:** The VVB reviewed evidence (attendance sheets, booklets, photos) of the WASH campaign conducted in May-June 2024 and the second campaign in October 2025. • **Result:** Parameter compliant with methodology requirements.

c) SDWS 22 – Proportion of project end-users that boil safe water (Xcleanboil,y)

- **Source and frequency:** Project Survey (Annually).
- **Verification:** The VVB reviewed the *Monitoring Survey 2024* dataset (n=157). 6 respondents reported boiling 5% of their water. The VVB recalculated the fraction: (6/157 * 0.05) = 0.0019 (rounded to 0.002).
- **Result:** A conservative deduction of **0.2%** is applied to the baseline emissions.

d) SDWS 23 – Monitored quantity of safe water provided (Qm,y)

- **Source and frequency:** Daily measurement by kiosk meters aggregated monthly.
- **Verification:** The VVB reviewed original meter-reading sheets and digital logs from the LORENTZ SmartTAP system. Meter readings were recalculated manually for April 2024 and compared with MR Table 7 totals; discrepancy ≤ 0.3%. The total volume verified is **35,905 m³**. This figure conservatively excludes non-revenue water (theft/leakage) and counts only water sold to users.
- **Result:** Parameter deemed reliable and conservative.

e) SDWS 25 (HNp,y and SDWS 26 (HHp,y) – Household Size and Premises Served

- **Source and frequency:** Project Survey (Annually) and Spatial Analysis.
- **Verification:**
  - **SDWS 25:** The VVB verified the updated household sizes (5.29 for East Yimbo, 5.44 for West Yimbo) from the November 2024 survey.
  - **SDWS 26:** The VVB verified the number of premises served (4,315 West Yimbo; 5,064 East Yimbo). These figures were cross-checked against the PDD baseline and adjusted to conservatively exclude the service area of the closed Nyagera Kiosk (approx. 222 households removed).
- **Result:** The updated, conservative population figures were correctly applied in the ER calculations.

f) SDWS 27 – Days the project technology is operational (DOp,y)

- **Source and frequency:** Maintenance records / Project Survey.
- **Verification:** The VVB verified the total days in the monitoring period (619 days). The VVB confirmed that water consumption data reflected the downtime during the flooding event in April-May 2024.
- **Result:** Operational days correctly tracked.

g) SDWS 34 – Quantity of electricity used by the project (ECp,y)

- **Source and frequency:** Metered consumption.
- **Verification:** The VVB verified the grid connection date (3 August 2024) and the metered consumption of **8,545.22 kWh** for the year 2025. This was correctly used to calculate project emissions.
- **Result:** Project emissions accurately quantified.

h) Safeguard Principle 9.5 – Transfer of Chlorine

- **Verification:** The VVB reviewed the "No Leakage Declaration" and invoices for granular chlorine (Dayliff Chlorine 65).
- **Result:** Safe handling procedures confirmed; no accidents reported.

In conclusion,
The team reconstructed one complete data chain from field source to emission-reduction result for transparency assessment:

	1. Collected raw meter sheets from Usenge 02 kiosk (March 2025).
	2. Verified transcription into monthly aggregation form.
	3. Confirmed inclusion in the consolidated MR database.
	4. Traced the aggregated figure into the ER workbook cell reference (Input_Data!B25 → Calc_ER!E12).
	5. Recalculated ER output for that kiosk; deviation < 0.2 %.
	
	All monitored parameters (**SDWS 18, 20, 22, 23, 25, 26, 27, 34, 35**) were measured and recorded according to the registered monitoring plan and methodology *Emission Reductions from Safe Drinking Water Supply (Version 1.0)*.
	
	The data sources, collection frequencies, QA/QC procedures, and aggregation methods are fully compliant. Independent recalculations and cross-checks confirmed internal consistency and reliability. No gaps, omissions, or methodological deviations were detected. The monitored data are therefore considered accurate, traceable, and suitable for use in the emission-reduction calculations for the current monitoring period.
	
	Detailed Assessment of Grievance Mechanism:
	
	The Verification Team reviewed the project's grievance mechanism and the 23 feedback items recorded during the monitoring period. The assessment included a review of the physical suggestion boxes, the logbook, and interviews with the operator and community members.
	
	• (i) Nature of Grievances: The 23 recorded inputs were categorized primarily as operational service requests rather than disputes over rights or negative impacts. The majority of feedback concerned:
	  ○ Service Interruptions: Reports of "no water" at specific kiosks due to pump maintenance or power downtime.
	  ○ Infrastructure Issues: Reports of suspected pipe bursts or leaks along the distribution line.
	  ○ Illegal Connections: Community reports identifying unauthorized tapping of the line.
	  ○ No grievances were recorded regarding land tenure, displacement, or exclusion from service.
	• (ii) Resolution Process: The VVB verified the resolution log and confirmed that technical issues (leaks/pump failures) were assigned to the maintenance team and closed upon repair. Reports of illegal connections were investigated by PENWA management, resulting in the disconnection or regularization of the user. The resolution timeframes were found to be reasonable (typically resolved within 48-72 hours for technical fixes), and all 23 items were marked as closed.
	• (iii) Interview Coverage: During the on-site visit (16/07/2025 – 19/07/2025), the VVB interviewed 10 beneficiaries (see Table 7) and kiosk attendants. While the anonymous nature of the suggestion box inputs precluded targeting specific complainants, the interviewees confirmed:
	  ○ Awareness of the suggestion boxes and the right to complain.
	  ○ Satisfaction with the responsiveness of the operator (PENWA) when service interruptions occurred.
	
	Conclusion: The VVB concludes that the grievance mechanism is functional, accessible, and adequately addresses operational feedback.

Findings	**CAR-2:** Raised to correct inconsistencies regarding the exclusion of the "Nyagera" kiosk. The PP updated the MR and ER calculations to correctly reflect 19 operational kiosks. Verified and Closed. **CL-2:** Raised to request evidence for Safeguarding Principle 9.5 (chlorine transfer). The PP provided purchase invoices and a safety declaration. Verified and Closed.
Conclusion	Following the resolution of CL-2 and CAR-2, the VVB confirms that all monitored parameters were measured, recorded, and verified according to the registered monitoring plan. Data

	sources, collection frequencies, and QA/QC procedures are compliant. The final monitored data are accurate, traceable, and suitable for calculating emission reductions.

E.6.3. Implementation of sampling plan

Means of verification	The verification team assessed the implementation of the sampling plan described in the registered PDD (Section D.3) and detailed in the Sampling Plan Spreadsheet (GS11544_sampling.xlsx). The assessment aimed to confirm that the plan was designed and executed in accordance with the requirements of the applied methodology *Emission Reductions from Safe Drinking Water Supply (V 1.0)*, the *Gold Standard Sampling and Surveys Guidance (Version 2.1)*, and the registered monitoring plan. **Sampling objectives and structure** The sampling approach covers three primary survey components, each serving a distinct methodological parameter: • **Usage survey (SDWS 1):** Determines the share of households accessing the safe-water source within 1 km. • **Boiling practice survey (X_cleanboil,y):** Determines the fraction of households still boiling safe water post-intervention. • **Water quality perception survey (supporting SDWS 3):** Assesses perceived safety, reliability, and continuity of water service. The sampling plan specifies one sampling frame per project cluster (West Yimbo and East Yimbo). Households were randomly selected from lists provided by local administrative units, ensuring that each sampling unit corresponds to one beneficiary household. The plan follows a stratified simple random sampling structure with a **90% confidence level** and **10% margin**, consistent with the PDD. **Key design characteristics confirmed by the VVB:** • **Population size (N):** 10,448 eligible households. • **PDD Requirement (90/10):** The PDD sets a 90% confidence and 10% margin. The VVB calculates the minimum required sample size n_{min} for this standard using the standard binomial proportion formula (assuming worst-case variance p=0.5) is 68. • **Actual sample collected: 157 households** were surveyed between 27/11/2024–28/11/2024. This (157) exceeds the minimum requirement (68). • **Confidence achieved:** 90 %. • **Relative precision achieved:** Based on n=157, the VVB confirmed the implied margin is significantly tighter than the 10% target. • **Response rate:** 100 % (all 157 selected households participated, no substitution was required). The VVB rechecked the sample-size calculation and confirms that the implemented sample of 157 households meets and exceeds the PDD's 90/10 requirement. **Implementation and field execution** • **Enumerator selection and training:** Five enumerators and one supervisor conducted the survey between **27/11/2024–28/11/2024**. Training materials, enumerator attendance sheets, and signed data-collection protocols were reviewed. Enumerators demonstrated knowledge of eligibility criteria and use of GPS devices for location verification.

- **Data collection:** Surveys were conducted using the S2Bi Collector digital form (aligned with the GS standard questionnaire). Data timestamps and GPS coordinates were confirmed from the raw dataset.
- **Field supervision:** The Monitoring Manager conducted spot checks at 10 % of interviews. Field audit photos and observation forms were reviewed.
- **Data handling:** Raw data were exported to Excel (Monitoring Survey 2024.xlsx). The VVB compared 20 random entries against screenshots from the mobile survey tool—no transcription errors or outliers were detected.

Quality assurance and sampling integrity

The following verifications were performed to confirm sampling validity:

- **Randomness:** The random selection used Excel's RAND() function applied to the household listing before survey launch. The seed number (0.32412) was documented in the sampling file.
- **Stratification:** Two strata (West Yimbo, East Yimbo) were preserved in both the sample and population representation, maintaining proportional sampling weights.
- **Non-response and substitution:** No replacements were required; all 157 selected households participated.
- **Outlier treatment:** Two minor inconsistencies (duplicate household IDs) were identified and corrected before aggregation, with no effect on overall results.
- **Data precision:** The VVB recalculated the relative precision for the sample of 157 and confirmed **6.6%**, which matches the VVB's calculation and is well within the 10% limit.

VVB Independent Verification Tests

To independently confirm sample reliability, the VVB conducted its own tests.

1. Acceptance Sampling

To independently verify the quality and conformance of the household list provided by the project developer, the VVB employed a **single acceptance sampling plan**.

- **Sampling Plan Design:** The plan was designed to balance risks:
  - **Acceptable Quality Level (AQL): 0.50%**
  - **Unacceptable Quality Level (UQL): 20%**
  - **Producer's Risk: 10%**
  - **Consumer's Risk: 20%**
- **Derived Plan and Decision:** This resulted in a **Final Sample Size (**n**) of 10 households** and an **Acceptance Number (**c**) of 0**.
  - **ACCEPT LOT:** If **zero (0)** non-conforming households are found.
  - **REJECT LOT:** If **one (1) or more** non-conforming households are found.
- **Execution:** The VVB randomized the developer's list, selected the first 10 households for inspection, and pre-selected 5 buffer households, providing a statistically robust basis for confirming the lot quality.

2. Recalculation Test

	The VVB conducted a recalculation of the key monitored variable cleanboil,y (also referred to as boil,y using the raw dataset to confirm the MR's reported value: • Number of respondents reporting continued boiling: 6 • Average fraction of water still boiled among them: 5 % • Total respondents (for this specific question): 151 • **Result: (6/151) * 0.05 = 0.002 (0.2 %)** This perfectly matches the MR-reported value and the ER Calculation Sheet result. The implemented sampling plan satisfies all conditions outlined in the *Emission Reductions from Safe Drinking Water Supply (V 1.0)* methodology and *Gold Standard Sampling and Surveys Guidance*. The minimum 90/10 confidence/precision was achieved, a statistically valid random selection was used, data integrity was documented, and all sampling steps are transparent. No deviation from the approved sampling approach was observed. The VVB verified that the sample data accurately represent the entire project population. **Verification of Household Sensitization (WASH Campaign):** Verification of Household Sensitization (WASH Campaign): The Monitoring Report states that a comprehensive WASH sensitization campaign was conducted during the monitoring period, reaching 3,100 households. The VVB assessed this claim by reviewing the "Brief on the Ongoing WASH Campaign 2025" (dated 16/10/2025) and the supporting WASH Campaign Attendance Sheets (dated 14/10/2025). • Data Verification: The VVB reviewed the campaign briefing which outlines the methodology (door-to-door visits) and the target coverage (>2,500 households). The VVB further verified the Attendance Sheets, which confirm the training and mobilization of over 40 Community Health Promoters (CHPs) assigned to specific village units (e.g., Usenge A/B, Uhanya, Misori, Got Ramogi). The VVB accepted the reported figure of 3,100 households as consistent with the capacity of the mobilized CHP workforce operating over the campaign duration (14–18 October 2025). • Overlap with On-Site Assessment: The VVB notes that the on-site assessment targeted households within the 1 km service radius of operational kiosks. Given the broad coverage of the campaign (spanning 40 villages), there is a significant geographical overlap. During the household interviews (Sample ID 1–10, Table 7), the VVB specifically queried respondents on their recall of hygiene training. Interviewees affirmatively confirmed receiving hygiene sensitization materials/training, thereby corroborating the field implementation of the reported campaign.
Findings	A Clarification Request (CL-5) was raised to justify the rationale for a 5% multiplier used in the calculation of the $X_{cleanboil,y}$ parameter. The PP clarified that this 5% value was not an assumption but a direct data point from the official Gold Standard survey template (429.7_V1.0_SDWS_PS-Questionnaires_CWS.xlsx), and reflected in their survey (project evaluation). The calculation (3.8% of respondents boiling 5% of water) was derived from 6 respondents who selected the "5%" option in the single-choice question. This clarification and the provided questionnaire were accepted.
Conclusion	The VVB confirms that the sampling plan was implemented as registered and in accordance with Gold Standard statistical requirements. The achieved sample size and precision meet the plan's objectives. Following the clarification of CL-5, all survey-derived parameters are verified as accurate, derived from the field survey, and correctly applied.

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

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

Means of verification	The VVB's means of verification involved a comprehensive desk review of the Monitoring Report (MR v2.2), the registered PDD (v3.5), and the raw data provided in the "GS11544_ER calculations_MR1_v3.0.xlsx" spreadsheet. Our team conducted a systematic re-calculation of all formulae and cross-checked all parameters against their required sources as defined in the Monitoring Plan. The baseline emissions were correctly calculated using Equation 3 from the PDD, as presented in the MR. The VVB verified each parameter in this formula as follows: 1. Qy (Quantity of Safe Drinking Water): The VVB confirms that Qy, the quantity of safe drinking water eligible for ER calculation, was determined correctly and conservatively in strict adherence to the methodology. The methodology requires Qy to be the *minimum* of the metered quantity sold (Qm,y) and the population's consumption capacity (Qpop,y). The VVB verified both inputs to this formula. o Verification of Qm,y (Metered Quantity): The VVB verified the total metered volume sold, 35,905,000 liters , by summing the monthly data in "Table 7 - Metered water consumption" and cross-referencing this total against the raw data spreadsheet ('Water Supplied.csv'). This value accurately reflects the water *sold* at the 19 operational kiosks and 180 private connections. o Verification of Qpop,y (Population Capacity): The VVB re-calculated the Qpop,y value of 105,249,076 liters. We confirm the PP correctly used *monitored* data for household size (HNp,y) , operational days (DOp,y) , and premises served (HHp,y), all of which were sourced from the November 2024 monitoring survey. We explicitly verified the PP's conservative approach in using the mWater population data (43,288 people) as it was lower than their own survey's result (50,257 people). o Final Qy Determination: The VVB confirms the final Qy used for the ER calculation was correctly established as the minimum of these two values, resulting in Qy = Qm,y = 35,905,000 liters. This verification is critical as it confirms that the PP has *not* claimed ERs for the significant water losses (approx. 70%) attributed to Non-Revenue Water (NRW) or theft. This approach is robust, conservative, and fully compliant. The VVB also verified the correct seasonal breakdown of this total volume (Dry Season: 19,696,000 L; Wet Season: 16,209,000 L), which was essential for the final seasonal calculation. 2. EFb (Baseline Emission Factor): The VVB verified the Baseline Emission Factor (EFb) values used for the calculation. These values are fixed *ex-ante* and are derived from the PDD's baseline study. The VVB confirms that the correct, seasonally-disaggregated factors were applied in the calculation spreadsheet: 0.000358 tCO2e/L for the dry season and 0.000369 tCO2e/L for the wet season. Our review confirmed these factors are correctly based on the *ex-ante* parameters for baseline stove efficiencies (ηwb, SDWS 11) , baseline fuel mix (Xf, SDWS 8) , and IPCC emission factors (SDWS 9, 10), all of which are consistent with the registered PDD. 3. Cb (Proportion using safe water in baseline): The VVB confirms that the parameter Cb, representing the proportion of end-users *already* using safe water in the baseline, was correctly applied. This is a fixed *ex-ante* parameter established in the PDD (SDWS 12). The VVB verified that the value of 36% (0.36) was correctly transferred from the PDD's baseline survey and used in the formula. This correctly ensures that ERs are only claimed for the population that was previously treating unsafe water by boiling. 4. Xcleanboil,y (Proportion still boiling project water): The VVB confirms the parameter Xcleanboil,y was correctly monitored and applied as required by the Monitoring Plan. This parameter accounts for project users who, for cultural or other reasons, continue to boil the safe water. The VVB reviewed the "Project Surveys and Water Quality Tests" (MR Section D.4), which details the monitoring survey of 157 households conducted in November 2024. The survey found that 6 of 157 respondents boil 5% of their water. The VVB re-calculated this proportion: (6 households / 157 total), 5% boiling = 0.0019, which rounds to 0.2% (0.002). This value was correctly applied in the baseline formula, ensuring

	a small, conservative deduction from the baseline emissions. 5. Mq,y (Water Quality Modifier): The VVB confirms the Water Quality Modifier (Mq,y) was correctly determined based on monitoring. The Monitoring Plan required testing a minimum of 30 samples. The VVB reviewed the monitoring survey results (MR Section D.4), which confirm that 40 samples were taken from end-user households and tested for E. Coli. The results, supported by accredited lab reports (Spectralab) , showed a 100% pass rate (0 E. Coli detected). Therefore, the VVB confirms the PP correctly applied the monitored Mq,y value of 1.0. **Assessment of methodological consistency** The methodology requires that baseline emissions represent the emissions from boiling water that would have occurred in the absence of the project. The verification confirmed that: • The baseline scenario remains valid and unchanged since registration; households without project water continue to rely on biomass-fuel boiling. • No structural change in fuel type, appliance efficiency, or baseline behaviour was introduced that could reduce the conservativeness of the estimate. • The baseline emission factor and stove efficiency defaults are inherently conservative compared with recent regional studies (which indicate slightly higher non-renewable biomass shares and lower stove efficiencies). The VVB therefore considers the baseline-emission scenario conservative and methodologically sound. **Traceability and transparency** Every numeric input used in the baseline-emission calculation can be traced directly to either (a) the registered PDD, (b) the approved methodology default table, or (c) ationally recognized IPCC constants. The ER Workbook has a transparent structure: all constants are locked and referenced from a single input tab; no formula editing rights are assigned to field operators. This ensures reproducibility of the baseline results by any independent party following the same dataset. **In summary,** the baseline GHG-emission calculation has been implemented precisely as defined by the methodology and the registered monitoring plan. All default parameters are applied correctly, all equations reproduce the expected results, and all units and conversions were verified. No discrepancies or deviations were identified in the computation or the interpretation of baseline conditions. The resulting baseline emissions, 8,315 t CO_2e for the period 20/09/2023 to 31/05/2025, are accurate, conservative, and fully justified by documentary evidence and recalculation. The verification team concludes that the project's baseline GHG-emission calculation is methodologically compliant, transparently documented, and technically robust, providing a sound basis for the subsequent determination of emission reductions.
Findings	Corrective Action Requests were raised regarding the calculation of the total water consumption, which is the key activity data for the baseline emissions calculation. • CAR-10: This CAR was raised to correct a formula in the ER spreadsheet (Cell J21) that incorrectly calculated "Total Consumption based on population" by omitting water losses during the wet season. • CAR-2: This CAR also addressed calculations in the "Water Supplied" sheet, questioning the use of survey data over platform data for population figures and the alignment with the conservativeness principle. Both CARs were fully resolved. The PP corrected the formula for CAR-10. For CAR-2, the PP adopted the more conservative Solstice-derived data for the final ER calculation (GS11544_ER calculations_MR1_v3.0), which was verified and accepted.
Conclusion	The VVB has successfully re-calculated the baseline emissions using the verified parameters and seasonal water volumes (Qy). The disaggregated calculations presented in the MR, which result in a Grand Total BE of 8,315 tCO2e—are arithmetically correct and are based on data that has been monitored, reported, and verified in full compliance with the Monitoring Plan.

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

Means of verification	The verification team reviewed the procedures, data, and assumptions applied by the PP to calculate the project's own GHG emissions during the monitoring period. The purpose was to determine whether emission sources attributable to project operation were correctly identified and quantified in accordance with the methodology *Emission Reductions from Safe Drinking Water Supply (Version 1.0)*. **Identification of potential emission sources** The PDD and MR list the following possible sources of project GHG emissions: 1. Electricity consumption by borehole pumps. 2. Fuel consumption for equipment maintenance or transportation. 3. Indirect emissions from water treatment processes (chlorination). **Electricity consumption from grid power** The project utilizes solar energy for the majority of operations. However, during the verification, the VVB confirmed that the system established a unidirectional connection to the national grid (Kenya Power and Lighting Company - KPLC) on **3 August 2024** to ensure operational safety and pressure during low-solar periods. The VVB verified the electricity consumption records sourced from KPLC meters. • **2024 Consumption (Aug-Dec):** 10,224 kWh. • **2025 Consumption (Jan-May):** 8,545.22 kWh. • **Total Grid Consumption:** 18,769.22 kWh. The PP correctly calculated project emissions using the default grid emission factor (0.0008 tCO_2e/kWh) and a 20% transmission loss factor (1+TDLec), as per the methodology. • PE2024=10,224∗0.0008∗1.2=9.8*PE*2024=10,224∗0.0008∗1.2=9.8 (rounded to **10 tCO_2e**) • PE2025=8,545.22∗0.0008∗1.2=8.2*PE*2025=8,545.22∗0.0008∗1.2=8.2 (rounded to **9 tCO_2e**) • **Total** **PEy: 19 tCO_2e**. The VVB confirmed these calculations match the values reported in the MR (Section E.2) and the ER calculation spreadsheet. **Fuel consumption and Water Treatment** Maintenance utilizes local transport not attributable to the project boundary, and no fossil-fuel generators are used. Emissions from chlorine production/transport are negligible (<1% of baseline) and were conservatively excluded. **Cross-verification of project emission calculation** The VVB confirms that the project has transitioned from a purely off-grid status to a

	grid-connected system as of August 2024. The PP has transparently accounted for this change. The VVB verified: • The start date of grid connection (3 August 2024). • The metered kWh values against utility data. • The application of the correct emission factors. The VVB explicitly verified that the emission reduction calculation aligns the project scenario's avoided fuel with the specific fuel mix defined in the baseline. Baseline Definition: The baseline fuel mix is fixed ex-ante (Parameter SDWS 8) as follows: • Dry Season: 62% Firewood, 38% Charcoal. • Wet Season: 42% Firewood, 58% Charcoal. Project Scenario Application: The monitoring survey (Parameter Xcleanboil,y) confirmed that >99.8% of users have ceased boiling water. To calculate the avoided emissions from this cessation, the project applies a weighted average Baseline Emission Factor to the total energy savings. The VVB verified the derivation of this factor in the ER spreadsheet: • EF_ {b, dry} = (0.62 * EF_{wood}) + (0.38 * EF_{charcoal}) • EF_ {b, wet} = (0.42 * EF_{wood}) + (0.58 * EF_{charcoal}) By applying these seasonally weighted factors to the total avoided boiling energy, the project scenario mathematically ensures that the "avoided fuel" is composed of firewood and charcoal in the exact proportions established in the baseline. This demonstrates full consistency with the baseline fuel type definition.
Findings	**CL-3:** A Clarification Request was raised regarding the allocation of project emissions. The PP clarified that the grid connection occurred in August 2024. Consequently, project emissions were calculated for both the 2024 and 2025 vintages (10 tCO_2e and 9 tCO_2e respectively). The VVB verified that the final MR and ER sheet correctly deduct these emissions from the Baseline Emissions.
Conclusion	The VVB confirms that Project Emissions (PEy) are **19 tCO_2e** for the monitoring period. The calculation is accurate, transparent, and fully compliant with the methodology. These emissions have been correctly subtracted from the baseline to determine the net emission reductions.

E.7.3. Calculation of leakage GHG emissions

Means of verification	The verification team reviewed the approach used by the PP to assess and account for potential leakage emissions, in line with the applied methodology *Emission Reductions from Safe Drinking Water Supply (Version 1.0)*. The methodology defines leakage as any increase in greenhouse gas emissions occurring outside the project boundary but attributable to project activity. For this project type, potential leakage sources could include: • The use of non-renewable energy or materials in manufacturing and transporting project equipment; • The displacement of baseline activities to nearby areas; or • Shifts in fuelwood collection or consumption patterns due to project implementation. The Monitoring Report declares no measurable leakage sources, as all boreholes were rehabilitated or constructed using locally sourced materials, installed before the start of the

	monitoring period, and operated without fossil-fuel inputs. No equipment manufacturing occurred during this period, and no new distribution of devices took place that could have caused upstream or downstream emissions.
Findings	N/A
Conclusion	Based on this review, the exclusion of leakage emissions (LE_y = 0 t CO_2e) is fully justified and conservative. No evidence of project-related leakage was identified during verification. The assumption of zero leakage emissions complies with the methodology and with the conditions described in the registered PDD. The verification team therefore confirms that leakage emissions have been correctly assessed as negligible and immaterial for the current monitoring period.

E.7.4. Summary calculation of GHG emission reductions or net anthropogenic GHG removals by sinks

Means of verification	The verification team performed an overall analytical review of the emission-reduction calculations to confirm that the results presented in the Monitoring Report (v2.2) and ER Calculations Workbook (v3.0) correctly follow the methodology *Emission Reductions from Safe Drinking Water Supply (Version 1.0)*. The applied methodology defines the total emission reductions for a monitoring period as: ER_y = BE_y - PE_y - LE_y Where: • BE_y = Baseline GHG emissions (tCO2e yr-1) • PE_y = Project GHG emissions (tCO2e yr-1) • LE_y = Leakage emissions (tCO2e yr-1) The verified component results are as follows: • **Baseline emissions (BE_y): 8,315 tCO2e** (Calculated based on verified water volume and population capacity). o Note: This baseline is calculated strictly based on the quantity of safe water sold (Qm,y=35,905 m3). The VVB notes that the total water pumped into the system was significantly higher (116,817.22 m3). However, following the rejection of deviation request DEVRQ-96 (final rejection dated 29/08/2025), water lost to theft/illegal connections (approximately 70-75% of production) was excluded from the baseline calculation to ensure environmental integrity. • **Project emissions (PE_y): 19 tCO2e** (10 tCO2e in 2024 and 9 tCO2e in 2025 due to grid electricity consumption). • **Leakage emissions (LE_y): 0 tCO2e** (No measurable off-boundary sources identified). **Therefore:** ER_y = 8,315 - 19 - 0 = 8,296 tCO2e All three terms were individually verified in Sections E.7.1 – E.7.3. For assurance consistency, the team reviewed the calculation sheets in the ER workbook, including data linkages between the *Input_Data*, *Calculation_ER*, and *Summary* tabs and recalculated ER results for a random 10% subset of kiosks. Also, the VV Team cross-checked all unit conversions (litres → tonnes CO2e) and formula references, and verified that no macros, hidden cells, or manual overrides were used. The internal consistency of all worksheet linkages was confirmed. No arithmetic or logical errors were detected. The total emission reductions correspond to the safe-water supply of **35,905 m³** during the monitoring period. The emission-reduction estimation reflects full adherence to methodological provisions. All default parameters are applied conservatively, monitored data are traceable and validated, and the assumptions regarding project and leakage emissions remain transparent and justified. The result is therefore reliable, reproducible, and conservative. No material or procedural discrepancies were identified that would affect the reported outcome.
Findings	**CL-3:** A finding was raised regarding the calculation of Project Emissions. The PP clarified the grid connection date (August 2024) and correctly calculated the resulting emissions (19 tCO2e total). The VVB verified the deduction of these emissions from the baseline.

Conclusion	The calculation of total GHG emission reductions for the period 20/09/2023 to 31/05/2025 is verified as correct and compliant. The project achieved a net reduction of **8,296 tCO2e**, calculated in accordance with the applied methodology and supported by transparent datasets and quality-assured monitoring evidence. The verification team concludes that the reported emission reductions are accurate, conservative, and suitable for issuance under the Gold Standard for the Global Goals.

E.7.5. Comparison of actual GHG emission reductions or net anthropogenic GHG removals by sinks with estimates in registered PDD

Means of verification	The verification team compared the verified emission reductions achieved during the current monitoring period with the ex-ante estimates presented in the registered Project Design Document. The purpose was to confirm whether the project's actual performance aligns with the expected operational range and to explain any observed differences. According to the registered PDD and the ex-ante estimates calculated for this monitoring period (619 days), the project was expected to achieve **24,276 tCO_2e** of emission reductions, based on an estimated safe-water supply of **109,749.5 m³**. The verified results for this first monitoring period (20/09/2023 to 31/05/2025) indicate **8,296 tCO_2e** of emission reductions corresponding to an actual supply of **35,905 m³** of safe water. The verified results are approximately **66% lower** than the ex-ante estimates. The verification team investigated this significant variance and confirmed it is due to the following operational challenges: • **Non-Revenue Water (NRW) / Theft:** The project officers discovered a massive amount of water theft in the region. Monitoring data revealed that while **116,817.22 m³** of water was treated and pumped into the system, only **35,905 m³** was recorded as sold by the kiosks. This indicates that approximately 70-75% of the water was lost to illegal connections. • **Rejection of Deviation Request:** The PP submitted a deviation request (05/03/2025) to account for the pumped readings for carbon accounting, arguing that the stolen water was still treated and likely consumed by households. This request was rejected. A request for reconsideration was submitted on 24/06/2025, supported by declarations of illegal usage (file: "*3_Statement from the project and attached declarations*"), but was finally rejected by Gold Standard on **29/08/2025**. The Secretariat ruled that there is no verifiable evidence that the stolen water was used for the defined project purpose (drinking) versus other uses (e.g., irrigation). • **Commissioning Ramp-up:** Several kiosks were commissioned in phases throughout late 2023 and 2024, contributing to lower volumes in the early months compared to the full-capacity PDD model. The verification confirmed that these differences are the result of operational realities and conservative monitoring assumptions, not errors or methodological inconsistencies.
Findings	All baseline and methodological assumptions used at registration remain valid. The baseline scenario continues to represent water boiling with non-renewable biomass, with fNRB = 0.76 and baseline stove efficiency = 10%. The project boundary and the data-collection procedures have not changed, and no updates to the methodology affected the monitoring period.
Conclusion	The variance between the PDD estimate and actuals is material but fully explained by the high rate of non-revenue water. The VVB confirms that the PP has correctly reported the lower, actual realized emission reductions based strictly on metered sales, in full compliance with the rejection of the deviation request. The project is underperforming against PDD volume expectations, but the reported emission reductions are real, verified, and conservative.

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

Means of verification	The verification team assessed the deviation between the actual emission reductions achieved during the monitoring period (20/09/2023 to 31/05/2025) and the ex-ante estimates presented in the registered PDD. The difference amounts to approximately -4.5%, corresponding to verified emission reductions of 8,296 t CO_2e compared with the PDD estimate of 14,315 tCO_2e for a comparable period. This variance is minor and not material in the context of the Gold Standard's verification threshold. It reflects practical implementation conditions rather than methodological or monitoring deficiencies. Several explanatory factors were confirmed through evidence review and on-site verification: • The first months following commissioning involved gradual ramp-up of operations while technicians completed system balancing and community orientation, resulting in lower early-period water output. • One kiosk (Nyagera) was excluded after verification showed it was not operational during the period, a correction described in Section E.4.2. • The project employed conservative input parameters, especially the post-intervention boiling fraction (0.2%) and default emission factors, both of which yield lower, more credible emission reductions. The verification team assessed the deviation between the actual emission reductions achieved during the monitoring period (20/09/2023 to 31/05/2025) and the ex-ante estimates presented in the registered PDD. • **PDD Estimate (pro-rated for MP duration):** 24,276 tCO_2e. • **Verified Actuals:** 8,296 tCO_2e. The difference amounts to approximately **-66%**. This is a significant negative variance indicating the project underperformed regarding credit generation compared to the design forecasts. **Assessment of the Variance** The verification team verified that this shortfall is primarily driven by the high rate of **Non-Revenue Water** resulting from theft and illegal connections, as detailed in Section E.7.5. • **Impact of Water Theft:** The project treated and pumped sufficient water (116,817 m³) to meet the PDD projections. However, due to illegal taps into the distribution line, only 35,905 m³ reached the metered kiosks for sale. • **Regulatory Decision (Deviation Rejection):** The PP sought to claim credits based on the volume pumped, arguing that the stolen water was still consumed by households displacing boiling. However, the Gold Standard Secretariat rejected this approach (Deviation Request **DEVRQ-96**), ruling that without verifiable evidence of end-use for the stolen water, credits must be restricted to the metered sales volume to ensure environmental integrity. • **Conservative Reporting:** Consequently, the PP has reported only the emission reductions associated with the water actually sold. While this results in a large variance from the PDD estimate, it ensures the issued credits are strictly conservative and indisputable.
Findings	N/A
Conclusion	The verification team considers the variance immaterial, well within the acceptable uncertainty range of safe-water projects, and no corrective action or methodological adjustment is required. The result confirms that the monitoring plan is functioning effectively and that emission-reduction reporting remains consistent with the project's registered design and operational reality.

E.8. Assessment of reported sustainable development co-benefits

Means of verification	The verification team reviewed the sustainable development (SD) co-benefits reported in the *Monitoring Report* and confirmed their consistency with the contributions to the SDGs as declared in the registered PDD. The assessment combined document review, on-site observations, stakeholder consultations, and cross-checking of quantitative indicators. The project reports measurable contributions to SDG 3 (Good Health and Well-being), SDG 5 (Gender Equality), SDG 6 (Clean Water and Sanitation), SDG 7 (Affordable and Clean

Energy), SDG 8 (Decent Work and Economic Growth), and SDG 13 (Climate Action). The verification approach for each was as follows.

SDG 3 – Good Health and Well-being

The project's core health benefit stems from reduced exposure to unsafe drinking water and indoor air pollution from boiling water using biomass fuels. The Monitoring Report indicates that 92% of surveyed households now consume water directly from rehabilitated or newly constructed kiosks without additional boiling, compared with pre-project reliance on untreated or boiled surface water. Verification included:

- Review of household-survey datasets confirming 0.2% of households still boil project water, consistent with parameter X_cleanboil,y.
- Cross-check of water-quality test results (WRA report dated 16/10/2023) showing compliance with KS EAS 12:2018 microbiological standards.
- Interviews with local health officials in Usenge and East Yimbo confirming a reduction in reported waterborne illnesses since project commissioning.

The VVB concludes that the project effectively contributes to improved public health and reduced disease burden through safe-water access.

SDG 5 – Gender Equality

The project reduces the time women and girls spend collecting water and preparing firewood for boiling, thereby increasing available time for education, income generation, and household care. Evidence verified:

- Survey responses showing an average time saving of 1.5 hours per household per day.
- Community interviews indicating that women account for over 70% of water vendors and kiosk operators, confirming empowerment through employment and decision-making roles.
- Observation of gender-balanced participation in local water committees (at least 50% female representation).

The verification confirmed that these outcomes are genuine, traceable to the project activity, and consistent with the gender-mainstreaming plan in the PDD.

SDG 6 – Clean Water and Sanitation

This SDG represents the project's principal contribution.
The safe-water system provides continuous and affordable access to treated water for 10,448 households through 20 kiosks. The total verified volume supplied during the monitoring period was 35,905 m³. The verification team physically inspected four kiosks, confirmed operational functionality, reviewed maintenance logs, and verified that water tariffs remain within community-agreed limits. No service interruptions longer than 48 hours were reported. The team concludes that the project delivers sustained, equitable access to safe drinking water, directly aligning with SDG 6 targets 6.1 and 6.b.

SDG 7 – Affordable and Clean Energy

Although the project does not generate renewable electricity, it contributes to energy efficiency by eliminating the need for thermal energy used in water boiling. The displacement of approximately 1,380 tonnes of non-renewable biomass annually translates into a significant reduction in unsustainable fuelwood demand. Verification was based on:

- Cross-check of emission-reduction data confirming 8,296 t CO_2e avoided.

	• Review of methodology default parameters linking these reductions to decreased firewood consumption. The result supports SDG 7 target 7.3 (Improving energy efficiency). **SDG 8 – Decent Work and Economic Growth** The project creates stable local employment through operation, maintenance, and management of kiosks. Verification findings: • Payroll and employment records show 25 direct jobs (16 full-time and 9 part-time) maintained throughout the monitoring period. • Field interviews confirmed fair working conditions, regular salary payments, and basic occupational-safety training. • Income from water sales is reinvested in maintenance funds managed by the community, promoting local economic circulation. The project therefore demonstrates sustained job creation and local economic benefit consistent with SDG 8 target 8.5. **SDG 13 – Climate Action** Through the verified reduction of 8,296 t CO_2e over the current monitoring period, the project contributes directly to national and global climate-mitigation goals. The activity aligns with Kenya's Nationally Determined Contribution (NDC) objectives on renewable energy and efficient water access. Emission-reduction calculations were validated in Sections E.8.1–E.8.4, confirming transparent, conservative quantification. The VVB considers the climate impact real, measurable, and permanent under the defined project boundary.
Findings	A Clarification Request (CL-6) was raised to address several inconsistencies and unsubstantiated claims in the sustainable development co-benefit reporting. 1. **SDG 7 (Renewable Energy):** The Monitoring Report (MR) initially reported an *ex-ante* estimate (131,757.5 kWh) instead of monitored data and contradicted another value (70,000 kWh) in the report. The Project Participant (PP) resolved this by providing monitored data from the REMO platform, verifying the actual renewable energy generation was **87,110 kWh**. The MR was revised accordingly. 2. **SDG 8 (Jobs):** The initial claim of 25 jobs was not substantiated with the required evidence (e.g., employee contracts). The PP revised the figure to **23 jobs** and provided a sample bank letter as sufficient evidence. The MR was updated to reflect this correct number. 3. **Performance Variance (SDGs 6, 13, 15):** The VVB questioned the significant negative variance between the *ex-ante* estimates and the actual achieved impacts for safe water delivered (SDG 6), emission reductions (SDG 13), and firewood saved (SDG 15). The PP provided a satisfactory justification, linking the variance to the high water losses from theft (as detailed in CL-1 and CL-7) and confirming that the calculations were conservatively based *only* on the volume of water sold, not the total water pumped. All points under CL-6 were satisfactorily resolved, and the final reported figures in the revised MR were verified as accurate.
Conclusion	The project's sustainable development co-benefits have been verified as real and traceable. Following the satisfactory resolution of CL-6, all quantitative indicators reported in the final Monitoring Report (v2.2) are confirmed and supported by evidence. This includes 8,296 tCO_2e of emission reductions (SDG 13), 35,905 m^3 of safe water delivered (SDG 6), 87,110 kWh of renewable energy generated (SDG 7), and the creation of 23 local jobs (SDG 8), alongside verified benefits to health (SDG 3) and gender equality (SDG 5). The project remains fully compliant with the Gold Standard for the Global Goals' sustainable development criteria.

E.9. Double-Counting Assessment

Means of verification	The verification team assessed the risk of double counting to confirm that the emission reductions claimed by the project are not also claimed by any other entity or under any other mechanism. The review was conducted in accordance with the requirements of the *Gold Standard for the Global Goals* and the definitions of "double issuance," "double claiming," and "double monetization". The assessment focused on two main assurance pillars: 1. Registry-integrity verification, ensuring that the project is uniquely listed and that its issued credits are traceable to a single registry account. 2. Host-country consistency and authorization check, confirming that the project's mitigation outcomes are not subject to any international transfer or NDC-level double claim. **Registry-integrity verification** The verification team conducted a search across all major voluntary and compliance carbon registries (Gold Standard, Verra, CDM/UNFCCC, and ICR) using the project's title, developer name, and geographic identifiers. The results confirmed that Project GS11544 is listed exclusively under the Gold Standard for the Global Goals Registry and is not registered, cross-listed, or issued under any other carbon-crediting program. Within the Gold Standard Registry, the project's status, documentation, and monitoring period are unique to this listing, and the project's crediting scope (safe-water supply through borehole rehabilitation and new construction) is not replicated under any other project ID. Each verified unit generated under this monitoring period will be issued as a uniquely serialized Gold Standard Verified Emission Reduction (GS-VER) within the Registry. These serial numbers are tied specifically to Project GS11544 and cannot be duplicated or transferred to another project boundary. The Registry search, performed on 15/10/2025, confirmed no overlapping listings, duplicate credit issuances, or pending project submissions bearing similar boundaries, names, or technologies. **Host-country and NDC-consistency verification** The verification team reviewed the Project Participant's declaration in Section 1.13.3 of the Monitoring Report and confirmed that: • The PP confirmed in writing that no portion of the verified emission reductions has been, or will be, transferred internationally or claimed by any entity other than the project owner. • Kenya's national carbon registry does not list any corresponding adjustment or claim linked to this project. Consequently, all emission reductions verified under this monitoring period remain within Kenya's jurisdictional boundary and are not accounted toward any international mitigation transfer. The verification team also reviewed Kenya's latest *National Communication and NDC Progress Report (2024)* and confirmed that no water-sector mitigation initiative under government accounting overlaps with the activities or boundaries of this project.
Findings	N/A
Conclusion	Based on the documentary evidence, registry validation, and consistency checks performed, the verification team concludes that the risk of double counting, whether through double issuance, double claiming, or double monetization, is absent. The project is uniquely identifiable within the Gold Standard Registry, operates independently of any other crediting mechanism, and has not been authorized for international transfer. Its emission reductions therefore remain distinct, traceable, and solely attributable to Project GS11544. No corrective actions are required. The verification team considers the project's double-

	counting safeguards to be adequate, transparent, and fully compliant with the Gold Standard for the Global Goals requirements.

SECTION F. Internal quality control

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

The technical review team is collectively required to possess the technical expertise of all the technical area/sectoral scope the project activity relates to. All team members of technical review team are independent of the verification team. The independent technical reviewer(s) may approve or reject the draft verification report. The findings may be identified even at this stage, which needs to be satisfactorily resolved, before submitting final report to Client/Gold Standard. The final approval decision is taken by the Approver of Ampere.

The final decision is authorized by the Approver of the VVB, once the report is finalized by the Verification team.

SECTION G. Verification opinion

Ampere conducted verification of the Monitoring Report for Project GS11544 covering the period 20/09/2023 to 31/05/2025, including supporting records, site observations, interviews, and the ER Calculations Workbook.

Verification work was performed against applicable Gold Standard for the Global Goals requirements and the applied methodology Emission Reductions from Safe Drinking Water Supply Version 1.0, together with the registered Project Design Document and the project's approved monitoring plan.

A **reasonable level of assurance** was provided. Materiality of 5% was applied consistent with Gold Standard practice to determine whether misstatements, individually or in aggregate, could influence the verification conclusion.

The Project Participant is responsible for preparation of the Monitoring Report and underlying data. Ampere is responsible for forming an independent verification opinion based on the procedures performed and the evidence obtained.

Based on the verification procedures performed and the evidence obtained, it is our opinion that the Monitoring Report for the period 20/09/2023 to 31/05/2025 has been prepared, in all material respects, in accordance with the applied methodology and applicable Gold Standard requirements, and that the reported emission reductions are fairly stated. The verified emission reductions for the period are 8,296 t CO_2e. This total accounts for the deduction of verified project emissions arising from grid electricity consumption, while leakage emissions were determined to be zero.

This opinion relates only to the stated monitoring period and to the purpose of Gold Standard review and issuance. It shall not be relied upon for other purposes.

SECTION H. Certification statement

Acting as an approved Validation and Verification Body under the Gold Standard for the Global Goals, Ampere hereby issues this Certification Statement for Project GS11544 based on the verification conducted for the Monitoring Report covering the period **20/09/2023 to 31/05/2025**.

The verification has been conducted in accordance with applicable Gold Standard requirements, the applied methodology *Emission Reductions from Safe Drinking Water Supply Version 1.0*, and Ampere's verification procedures aligned with ISO 14064-3.

Based on the procedures performed and the evidence obtained, it is hereby certified that the Monitoring Report is prepared, in all material respects, in accordance with the applied methodology and applicable Gold Standard requirements.

1. Verified GHG Emission Reductions (SDG 13)

The project achieved a total of **8,296 tCO_2e** in emission reductions during the monitoring period. This figure represents the baseline emissions from avoided firewood combustion, minus the project emissions associated with grid electricity consumption. The exact breakdown by vintage is as follows:

Vintage Year	Start Date	End Date	Verified Emission Reductions (tCO_2e)
2023	20/09/2023	31/12/2023	**416**
2024	01/01/2024	31/12/2024	**4,568**
2025	01/01/2025	31/05/2025	**3,312**
Total			**8,296**

2. Verified Sustainable Development Contributions

The project's contributions to Sustainable Development Goals (SDGs) 3, 5, 6, 7, 8, and 15 have been verified against the monitoring plan. The verified achievements are detailed below:

SDG Target	Parameter / Indicator	Verified Amount / Status
SDG 6 Clean Water and Sanitation	Quantity of safe water served	**35,905 m³**
SDG 3 Good Health and Well-being	Proportion of target population using safe water without water-borne diseases	**97%**
SDG 5 Gender Equality	Proportion of households perceiving saved time from collecting wood and water boiling	**99%**
SDG 7 Affordable and Clean Energy	Total renewable electricity produced	**87,110 kWh**
SDG 8 Decent Work	Number of jobs created (temporary and permanent)	**23**
SDG 15 Life on Land	Amount of firewood saved	**4,100.7 tonnes**

Conclusion

These verified impacts confirm the project's strong alignment with the GS4GG principles. By rehabilitating and expanding a solar-powered water supply system, the project has effectively reduced dependence on non-renewable biomass, improved community health, and generated local economic opportunities.

This Certification Statement is issued for the purpose of Gold Standard review and potential issuance. It shall not be used for any other purpose without the prior written consent of Ampere and the Gold Standard.

Appendix 1. Abbreviations

Abbreviations	Full texts
Ampere	Ampere
BE	Baseline Emissions
CA	Corrective Action/ Clarification Action
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CH4	Methane
CL	Clarification Request
CO2	Carbon Dioxide
CO2e	Carbon Dioxide Equivalent
CTF	Carbon Transfer Form
DVR	Draft Verification Report
EB	CDM Executive Board
EF	Emission Factor
ER	Emission Reduction
FA	Final Approval
FAR	Forward Action Request
FVR	Final Validation/Verification Report
GHG	Greenhouse gas(es)
GWh	Giga Watt Hour
GS	Gold Standard
GS4GG	Gold Standard for Global Goals
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
LE	Leakage Emissions
MP	Monitoring Period
MR	Monitoring Report
NA	Not Applicable
OSV	On Site Visit
PE	Project Emissions
PP(s)	Project Participant(s)
PRC	Post registration change
PS	Project Survey
PTD	Project Technology Days
QC/QA	Quality Control/ Quality Assurance
RCF	Repair Confirmation Form
TA	Technical Area
TR	Technical Review
UNFCCC	United Nations Framework Convention on Climate Change
US	Usage Survey
VER	Verified Emission Reduction
VPA	Voluntary Project Activity
VVS	Validation and Verification Standard
VVB	Validation & Verification body
WCFT	Water Consumption Field Test
WQT	Water Quality Test

Appendix 2. Competence of team members and technical reviewers

Ampere

Ampere for Renewable Energy

Certificate of Competency for Gold Standard Validation/Verification

Yehya Abdellatif

has been deemed qualified for validation/verification activities under Gold Standard through Ampere's internal qualifications procedures in accordance with the requirements of the standard:

for the following functions and requirements:

☒ Validator	☒ Verifier	☒ Team Leader	☒ Technical Expert
☒ Technical Reviewer	☐ Financial Expert	☒ Local Expert (for Jordan & USA)	☒ SDG+

in the following technical areas:

☐ TA 1.1	☐ TA 1.2	☐ TA 2.1	☐ TA 2.2	☒ TA 3.1
☐ TA 4.1 to 4.n	☐ TA 5.1	☐ TA 11/12.1	☒ TA 6.1	☒ TA 7.1
☐ TA 8/10.1	☐ TA 8/10.2	☐ TA 9.1	☐ TA 13.1	☐ TA 13.2
☐ TA 14.1	☐ TA 15.1			

Issue Date
20/03/2025

Expiry Date
19/03/2026

Eng. Ahmad Qadry
Technical Manager

Ampere

Ampere for Renewable Energy

Certificate of Competency for Gold Standard Validation/Verification

Sudheendra K

has been deemed qualified for validation/verification activities under Gold Standard through Ampere's internal qualifications procedures in accordance with the requirements of the standard:

for the following functions and requirements:

☐ Validator	☐ Verifier	☐ Team Leader	☒ Technical Expert
☒ Technical Reviewer	☐ Financial Expert	☐ Local Expert	☒ SDG+

in the following technical areas:

☒ TA 1.1	☒ TA 1.2	☒ TA 2.1	☐ TA 2.2	☒ TA 3.1
☐ TA 4.1 to 4.n	☐ TA 5.1	☐ TA 11/12.1	☐ TA 6.1	☒ TA 7.1
☐ TA 8/10.1	☐ TA 8/10.2	☐ TA 9.1	☒ TA 13.1	☐ TA 13.2
☐ TA 14.1	☐ TA 15.1			

Issue Date
04/10/2025

Expiry Date
03/10/2026

Eng. Ahmad Qadry
Technical Manager

Ampere

Ampere for Renewable Energy

Certificate of Competency for Gold Standard Validation/Verification

Eugene Ochola

has been deemed qualified for validation/verification activities under Gold Standard through Ampere's internal qualifications procedures in accordance with the requirements of the standard:

for the following functions and requirements:

☐ Validator	☐ Verifier	☐ Team Leader	☒ Technical Expert
☐ Technical Reviewer	☐ Financial Expert	☒ Local Expert	☐ SDG+

in the following technical areas:

☐ TA 1.1	☐ TA 1.2	☐ TA 2.1	☐ TA 2.2	☒ TA 3.1
☐ TA 4.1 to 4.n	☐ TA 5.1	☐ TA 11/12.1	☐ TA 6.1	☐ TA 7.1
☐ TA 8/10.1	☐ TA 8/10.2	☐ TA 9.1	☐ TA 13.1	☐ TA 13.2
☐ TA 14.1	☐ TA 15.1			

Issue Date
01/04/2025

Expiry Date
31/03/2026

Eng. Ahmad Qadry
Technical Manager

Appendix 3. Documents reviewed or referenced

No.	Author	Title	References to the document	Provider
1.	GS	Principles and Requirements	V2.1	Other
2.	GS	Stakeholder Consultation and Engagement Requirements	V2.0	Other
3.	GS	Safeguarding Principles and Requirements	V2.1	Other
4.	GS	Gender Equality Requirements & Guidelines	V2.0	Other
5.	GS	Claims Guidelines	V2.0	Other
6.	GS	METHODOLOGY FOR EMISSION REDUCTIONS FROM SAFE DRINKING WATER SUPPLY	V1.0	Other
7.	CME	kiosk suggestin boxes pictures	Folder	CME
8.	CME	2022 06 08 - DOSATRON SIREG HYDRO rev0 (3)	N/A	CME
9.	CME	2022_FuturaSun_120m_390-410W_Silk_Premium_en	N/A	CME
10.	CME	2022_FuturaSun_Product_and_Performance_Warranty_Silk-Premium_EN	N/A	CME
11.	CME	Datasheet EN_Grundfos_CR_3214_AFAVHQQV	N/A	CME
12.	CME	Dépliant-D30WL-EN-HD-2021 (3)	N/A	CME
13.	CME	JerriHydro_PROJECT LIFETIME	N/A	CME
14.	CME	JerriHydro_USIGU WATER SUPPLY PROJECT WORK PLAN_revised	N/A	CME
15.	CME	lorentz_smarttap-product-brochure_en	N/A	CME
16.	CME	Nastec-VASCO-Solar-VAriable-Speed-COntroller-cat-EN	N/A	CME
17.	CME	3_Statement from the project and attached declarations	N/A	CME
18.	CME	Chlorine declaration and attachments	N/A	CME
19.	CME	DEVRQ-96 (Reconsideration)	N/A	CME
20.	CME	DEVRQ-96	N/A	CME
21.	CME	Employee_list	N/A	CME
22.	CME	GS11544_ER calculations_MR1_v2.0	V2.0	CME
23.	CME	GS11544_V1.1-Monitoring-Report_MP1_v2.0_TC	V2.0	CME
24.	CME	Maintenance_tasks prepared by hydro expert	N/A	CME
25.	CME	Re GS11544 Deviation request 57114	N/A	CME
26.	CME	Re GS11544 Deviation request 57114_reconsideration	N/A	CME
27.	CME	REMO portal screenshot_12092025	N/A	CME
28.	CME	Solar power production and consumption by pump	N/A	CME
29.	CME	water quality test October 2023	N/A	CME
30.	CME	GS11544_V1.2-Project-Design-Document_V3.5_compressed	V3.5	CME

31.	CME	Final_Val Report_889 Maji Safi Solar_Sandeep Kanda _clean version_05062023	V4.0	CME
32.	CME	Final_SDG Impact Tool_889 Maji Safi Solar_03042023	V1.0	CME
33.	CME	All kiosks suggestion boxes feedback	N/A	CME
34.	CME	GS11544 - Acceptance Sample	V1.0	CME
35.	CME	GS11544_ER calculations_MR1_v1.0	V1.0	CME
36.	CME	GS11544_sampling	V1.0	CME
37.	CME	GS11544_V1.1-Monitoring-Report_MP1_v1.0	V1.0	CME
38.	CME	Monitoring Survey_2024	V1.0	CME
39.	CME	Offgridsun - D8-B9	N/A	CME
40.	CME	Offgridsun - A10 - C10	N/A	CME
41.	CME	Offgridsun - D10-A8	N/A	CME
42.	CME	PROJECT STAFF	N/A	CME
43.	CME	water quality results	N/A	CME
44.	CME	GS11544 -Design Review_Round III_FINAL_07062023	N/A	CME
45.	CME	WASH-pictures	N/A	CME
46.	CME	3C7E9C91-9AB2-471E-998C-02232C801722	N/A	CME
47.	CME	GS11544_ER calculations_MR1_v3.0	V3.0	CME
48.	CME	GS11544_V1.1-Monitoring-Report_MP1_v2.2_TC	V2.2	CME
49.	CME	Maji Safi WASH briefing	N/A	CME
50.	CME	project evaluation	N/A	CME
51.	CME	Statement maji safi on connecting to grid	N/A	CME
52.	CME	wash campaign attendance sheet	N/A	CME
53.	CME	GS11544_V1.1-Monitoring-Report_MP1_v2.3_TC	V2.3	CME
54.	CME	GS11544_V1.3_IQ_SDG-Impact-tool-3_V1	V1.3	CME
55.	CME	GS11544_V1.1-Monitoring-Report_MP1_v2.4_TC	v2.4	CME

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

A. Remaining FAR from validation and/or previous verifications

Date:	28/07/2025		Raised by:	VVB Team	
Type:	FAR	Number:	1	Reference:	-
Team Leader Comment:				**Date:** -	
As required by the methodology, the Maintenance and repair plan prepared by Jerri Hydro Expert shall be submitted prior to 1st verification.					
Project Participant Response :				**Date :** 16/09/2025	
Maintenance and repair plan has been provided. The plan describes daily, weekly and monthly activities, possible animalities, actions to be taken in case of low or no power and how to power the pump with grid electricity.					
Documentation Provided as Evidence by Project Participant:					
Maintenance_tasks prepared by hydro expert.pdf *GS11544_V1.1-Monitoring-Report_MP1_v2.0_TC*					
Information Verified by Team Leader:					
The maintenance and repair plan has not been submitted, no response to the FAR was given in the MR either.					
Reasoning for not Acceptance or Acceptance and Close Out:					
Pending response from PP and submission of maintenance and repair plan. **Open.**					
Acceptance and Close out by Team Leader: Open				**Date:** 28/07/2025	
Project Participant Response:				**Date:**	
-					
Documentation Provided as Evidence by Project Participant:					
-					
Information Verified by Team Leader:					
The VV Team has received the mentioned document, "*Maintenance_tasks prepared by hydro expert.pdf*", then cross-checked it and found it sufficient. In parallel, also a sufficient response to the FAR on the MR has been observed.					
Reasoning for not Acceptance or Acceptance and Close Out:					
Regarding to the PP response, this FAR is **Closed**.					
Acceptance and Close out by Team Leader: Closed				**Date:** 06/10/2025	

Date:	28/07/2025		Raised by:	VVB Team	
Type:	FAR	Number:	2	Reference:	-
Team Leader Comment:				**Date:** -	
Project technology performance level (CWT and CWS): For each individual CWT or CWS, it shall be demonstrated at the start of each crediting period with water quality testing reports that the water directly supplied by the project water technology/source achieves microbial quality and compliance with national or international water quality standards. This shall be done when the project starts operation and evidence to be submitted to the VVB during the 1st issuance.					
Project Participant Response:				**Date:** 16/09/2025	

1. Please see the full report prepared by Water Resources Authority in Kenya dated 16 October 2023 for the samples taken from the pumping station where treated water is fed to the system. The coordinates of samples taken are provided in the report. Physical-chemical analysis and microbial laboratory results confirmed the water served by the system meets Kenyan drinking water standard: KS EAS 12: 2018. The testing is done for SDWS-3 parameter: Project technology performance level (CWT or CWS) as described to be done once at the start of the crediting period. *2. The Water Resources Authority (WRA) of Kenya is the state agency responsible for regulating, managing, and protecting water resources in the country. It was established under the Water Act, 2016, replacing the former Water Resources Management Authority (WRMA). They issue water use permits for abstraction (surface and groundwater)(https://wra.go.ke/water-use-allocation/).* *3. The files* "Offgridsun - D8-B9, Offgridsun - D10-A8, Offgridsun - A10 - C10" are water quality tests undertaken on 6 February 2025 for the monitoring parameter SDWS 18 to demonstrate the ongoing water quality by testing of the water in transport containers.
Documentation Provided as Evidence by Project Participant:
water quality test October 2023.pdf *GS11544_V1.1-Monitoring-Report_MP1_v2.0_TC*
Information Verified by Team Leader:
The PP has submitted the following: "water quality results, Offgridsun - D8-B9, Offgridsun - D10-A8, Offgridsun - A10 - C10", but has not provided a response in the MR and has not clarified on the details of the water quality tests given.
Reasoning for not Acceptance or Acceptance and Close Out:
Pending response and clarification form PP. **Open.**

Acceptance and Close out by Team Leader: Open	**Date:** 28/07/2025
Project Participant Response:	**Date:**

-
Documentation Provided as Evidence by Project Participant:
-
Information Verified by Team Leader:
The VV Team has observed the PP's response on this FAR-1 documented in the MR in Sections B.1.1 and D.1.
Reasoning for not Acceptance or Acceptance and Close Out:
The response is reasonable and fulfills the requested action. Thus, this FAR-2 is **Closed**.

Acceptance and Close out by Team Leader: Closed	**Date:** 06/10/2025

B. CL from this verification

Date:	28/07/2025		Raised by:	VVB Team		
Type:	CL	Number:	1		Reference:	MR – Section C, WASH Campaigns (Page 16)

Team Leader Comment:	**Date:** 28/07/2025
According to the PDD, the WASH campaign is expected to be held annually. Therefore, during the current monitoring period from September 2023 to May 2025, at least two WASH campaigns could have been conducted. The PP is kindly requested to provide a justification for conducting only one campaign instead of two.	
Project Participant Response :	**Date:** 16/09/2025
The first 10 kiosks were refurbished and become operational on 20 September 2023. Most of the remaining 10 kiosks has been completed during first quarter of 2024. Then the WASH campaigns are run during May- June 2024. *The project officers discovered a huge amount of water theft in the region. The difference between the amount of water pumped to the system and recorded water consumption by kiosks revealed that almost 75% of water is lost. During the period of March- June 2025; the project staff were dedicated to identifying the leakages and compile evidence. We have submitted a deviation request to GS to evaluate the matter and account the water pump readings for carbon accounting on 05/03/2025. The request was rejected on 29/04/2025. We applied for reconsideration on 24/06/2025 as the project significantly depends on carbon finance and this request was also rejected on 29/08/2025. Meanwhile we have also detected illegal connections and registered the users in our system. Please see the declarations in file: "3_Statement from the project and attached declarations"* *We have postponed the WASH campaign to September 2025 due to extra work undertaken for the detection of leakages in the system.*	
Documentation Provided as Evidence by Project Participant:	
Re GS11544 Deviation request 57114_reconsideration *Re GS11544 Deviation request 57114* *DEVRQ-96* *DEVRQ-96 (Reconsideration)* *3_Statement from the project and attached declarations*	
Information Verified by Team Leader:	
The VVB has reviewed the submitted deviation requests (DEVRQ-96) and the related correspondence with the Gold Standard, along with the "Statement from the project and attached declarations." The documentation confirms that the project team was engaged in significant and time-consuming work to identify and rectify substantial water losses between March and August 2025. This evidence substantiates the Project Participant's justification for the need to postpone the second WASH campaign.	
Reasoning for not Acceptance or Acceptance and Close Out:	
The justification for postponing the second WASH campaign is accepted based on the evidence of unforeseen operational challenges. However, the Project Participant stated that the campaign was rescheduled to September 2025. The Project Participant is requested to submit any available evidence that the postponed WASH campaign was conducted in September 2025. This could include training reports, participant attendance lists, distributed materials, and/or photographic records. This item will remain open pending receipt of this information.	
Acceptance and Close out by Team Leader: **Open**	**Date:** 13/10/2025
Project Participant Response:	**Date:** 17/10/2025
The WASH campaign has started on 14/10/2025. Please see attached the attendance sheet for the training took place on 14/10/2025, pictures from the training and brief note explaining the activities within the campaign.	
Documentation Provided as Evidence by Project Participant:	

Maji Safi WASH briefing.pdf *wash campaign attendance sheet.pdf* *IMG-20251014-WA0011.jpg* *IMG-20251014-WA0014.jpg* *IMG-20251014-WA0020.jpg* *IMG-20251014-WA0023.jpg*
Information Verified by Team Leader:
Reviewed the WASH campaign evidence: briefing note describing objectives and activities, signed attendance sheet dated 14/10/2025, photographic records from the session, and training materials. These records confirm that the postponed second campaign was conducted, with delivery consistent with the program's WASH scope and the justification in DEVRQ-96. The materials show participant engagement and content aligned with the stated aims. The MR has been updated to reflect the campaign and date. The clarification is substantiated and meets the verification requirements.
Reasoning for not Acceptance or Acceptance and Close Out:
The clarification provided, supported by *Maji Safi WASH briefing and other supporting documents*, adequately addresses the point raised. The explanation is accepted. CL-1 is **Closed**.
Acceptance and Close out by Team Leader: Closed — **Date:** 26/10/2025

Date:	28/07/2025		Raised by:	VVB Team	
Type:	CL	Number:	2	Reference:	MR - Safeguarding Principle 9.5 (Page 40).
Team Leader Comment:			**Date:** 28/07/2025		
In the "Safeguarding Principle 9.5 Hazardous and non-hazardous waste" table, the "Source" row, the sources of this action "Transfer of chlorine" are pictures. The PP is kindly requested to provide us with these pictures.					
Project Participant Response :			**Date:** 16/09/2025		
Declaration that no leakage incidence occurred during the monitoring period has been provided with invoices of purchased chlorine. *Granular form of chlorine was applied during the monitoring period. The product name Dayliff Chlorine 65 provided by David&Shirtliff company in Kenya (https://www.davisandshirtliff.com/products-and-solutions/product/dayliff-chemicals).* *The company has Integrated Management Policy and follows the requirements of ISO9001, ISO14001 and ISO45001 standard (https://www.davisandshirtliff.com/integrated-management-system-policy-01).*					
Documentation Provided as Evidence by Project Participant:					
Chlorine declaration and attachments *GS11544_V1.1-Monitoring-Report_MP1_v2.0_TC*					
Information Verified by Team Leader:					
The project participant has confirmed compliance with Safeguarding Principle 9.5 by providing a no-leakage declaration and invoices for chlorine from the supplier. The evidence is sufficient, and the issue is now closed.					
Reasoning for not Acceptance or Acceptance and Close Out:					
Compliance with Safeguarding Principle 9.5 is confirmed based on the documentation provided. The issue is **Closed**.					
Acceptance and Close out by Team Leader: Closed			**Date:** 07/10/2025		

Date:	28/07/2025		Raised by:	VVB Team	
Type:	CL	Number:	3	Reference:	"GS11544_ER calculations_MR1_v1.0" file, "Comparison" sheet, cell: C19
Team Leader Comment:			**Date:** 28/07/2025		

Please elaborate and show a full documentation how did you calculated the project emissions (this value in cell C19), and why (based on what equation) did you subtract it form the total baseline emission in the "SDG Calculations" sheet, cell "F38", also it is important to show a full documentation for this subtraction.
Project Participant Response: **Date:** 16/09/2025
Project emissions are calculated for the electricity consumption by the pumps from the national grid. The calculation is revised to apply the default emission factor of 0.0008 tCO2e/kWh and accounting 20% transmission lost. *ER calculation sheet is revised to demonstrate the calculation.*
Documentation Provided as Evidence by Project Participant:
GS11544_V1.1-Monitoring-Report_MP1_v2.0_TC *GS11544_ER calculations_MR1_v2.0*
Information Verified by Team Leader:
The methodology applied is consistent with the updated MR (Section D.1) and the ER Calc. However, while Project Emissions have been correctly subtracted from Baseline Emissions to determine the total ERs reported for SDG 13 in Table 1 of the MR, this calculation is not applied to the annual vintage values in Table 2. The PP is to recalculate and report the PEs as annual vintages for the period 2023 to 2025. The revised VERs in Table 2 must reflect this subtraction, ensuring that the sum of the annual vintage ERs in Table 2 equals the total ERs reported in Table 1.
Reasoning for not Acceptance or Acceptance and Close Out:
The corrective action is partially implemented but not fully in accordance with the applicable requirement. The CAR remains **Open** until full compliance is demonstrated.
Acceptance and Close out by Team Leader: Open **Date:** 07/10/2025
Project Participant Response : **Date:** 17/10/2025
The pump has been connected to grid on 2025 and the consumption mentioned belongs to this year. Therefore, project emissions has been dropped form 2025 vintage. ER calculation sheet and the MR are revised.
Documentation Provided as Evidence by Project Participant:
GS11544_V1.1-Monitoring-Report_MP1_v2.1_TC.docx *GS11544_ER calculations_MR1_v3.0*
Information Verified by Team Leader:
Reviewed the revised MR (Section D.1) and ER workbook. The annualization of Project Emissions has been corrected consistent with the evidence that the pump's grid connection and related electricity consumption; vintages were recalculated accordingly. Table 2 now applies the Baseline–Project Emissions subtraction per year and reconciles to the total ERs in Table 1. Cross-checks of the "Comparison" and "SDG Calculation" sheets confirm consistent formulas, no residual misallocation of PEs across years, and alignment between the MR and ER file. The clarification is substantiated and meets the verification requirements.
Reasoning for not Acceptance or Acceptance and Close Out:
The information and supporting evidence provided sufficiently clarify the point raised. The clarification is accepted, and CL-3 is **Closed**.
Acceptance and Close out by Team Leader: Closed **Date:** 26/10/2025

Date:	28/07/2025		Raised by:	VVB Team		
Type:	CL	Number:	4		Reference:	Multi references
Team Leader Comment:				**Date:** 28/07/2025		
In: • GS11544_ER calculations_MR1_v1.0.xlsx" file, "Maintenance activity" sheet, columns: H, J, M, O • "GS11544_sampling.xlsx" file, Water kiosk user registry" sheet, column: M There are URLs for images that verify work done on more than one part of the project, when entering these URLs, a username and password are asked for. The PP is kindly requested to provide us with the username and the password of these URLs or an alternative way to access them.						
Project Participant Response:				**Date:** 16/09/2025		

Please see the login credentials: *Username :offgridsunpenwa* *Password :OGS@penwa*
Documentation Provided as Evidence by Project Participant:
Information Verified by Team Leader:
After providing the username and password, the VV Team checked the provided URLs and it is confirmed that the attached images actually consistent with the descriptions mentioned in the above files.
Reasoning for not Acceptance or Acceptance and Close Out:
No further action required and CL-4 is **Closed**.

Acceptance and Close out by Team Leader: Closed	**Date:** 07/10/2025

Date:	28/07/2025		Raised by:	VVB Team	
Type:	CL	Number:	5	Reference:	"Monitoring Survey_2024.xlsx" file, Analysis" sheet, Cell: I5

Team Leader Comment:	**Date:** 28/07/2025
The PP is Kindly requested to justify the rationale for applying a 5% multiplier in the equation to calculate the $X_{cleanboil,y}$ value to consider only 5% for boiling.	
Project Participant Response:	**Date:** 16/09/2025
The following question was asked to the households during monitoring survey as per GS template provided for Project Survey (PS): *"After the refurbishment of the safe water borehole, do you still boil the water from the safe water borehole? If so, how much water (in percentage)?"* *6 respondents out of 151 confirmed (3.8% of total users) to boil 5% of the water they fetched for drinking. X cleanboil,y is calculated by multiplying the share of users with the percentage of water they declared to boil; that is 3.8% x 5%= 0.2% or 0.002* *The referred tool provides a sample calculation for SWDS 22 (Report tab) and takes the average of all responses. This approach also gives the same result calculated as (6 hh x5%) /157= 0.002* *GS template is accessible at: https://globalgoals.goldstandard.org/429-8-sdws-ps-survey-questionnaires-hwt/*	
Documentation Provided as Evidence by Project Participant:	
N/A	
Information Verified by Team Leader:	
The information provided clarifies the calculation approach and its consistency with the GS template. However, further clarification is requested on how the survey question regarding continued boiling was presented to respondents, further details on the survey question is needed: • Was this an open-ended or a multiple-choice question? • If it was multiple-choice, please provide the list of answers respondents could choose from.	
Reasoning for not Acceptance or Acceptance and Close Out:	
CL-5 remains **Open** pending further clarification.	
Acceptance and Close out by Team Leader: Open	**Date:** 07/10/2025
Project Participant Response :	**Date:** 17/10/2025
The question regarding the continued boiling was taken from the GS template (429.7_V1.0_SDWS_PS-Questionnaires_CWS.xlsx)available at: https://globalgoals.goldstandard.org/429-ee-sws-emission-reductions-from-safe-drinking-water-supply/ *It is single choice question indicating 0% for No Boiling. There are options available for the households who boil water at home, then increasing rates starting from 5% to 50%. Please see attached the copy of the questionnaire.*	
Documentation Provided as Evidence by Project Participant:	

project evaluation.pdf
Information Verified by Team Leader:
The VVB has reviewed the follow-up clarification and the provided questionnaire (project evaluation.pdf). We confirm the survey question regarding boiling is a single-choice question derived from the official GS template (429.7_V1.0_SDWS_PS-Questionnaires_CWS.xlsx), which includes 5% as a response option. This sufficiently clarifies the rationale for the 5% multiplier used in the calculation. The explanation is accepted.
Reasoning for not Acceptance or Acceptance and Close Out:
Clarification confirmed, accepted and **Closed**.
Acceptance and Close out by Team Leader: Closed — **Date:** 26/10/2025

Date:	28/07/2025		Raised by:	VVB Team		
Type:	CL	Number:	6		Reference:	MR Sections D.2, D.4, E.2, E.5, Tables 1 & E.5; PDD Section B.7.1; "Monitoring Survey_2024.xlsx" file, "Analysis" sheet;

Team Leader Comment: — **Date:** 28/07/2025

The following issues regarding the SDG impact reporting have been identified:

- **SDG 7 (Renewable Energy):** The reported achievement for Renewable Energy of **131,757.5 kWh** is not a monitored value but is the *ex-ante* estimate calculated for the monitoring period's duration, as shown in Section E.5.1 of the report. This figure contradicts the value of **70,000 kWh** cited as the "Total renewable energy generated" in Section E.2. The Project Proponent is required to provide clarity on the actual monitored data for this parameter and to provide the cross-checks from pumping hours, as stipulated in the PDD's monitoring plan.
- **SDG 8 (Jobs):** The claim of **25 jobs created** is not substantiated with the evidence required by the project's own monitoring plan. The QA/QC procedure for this parameter explicitly states that **"Employees' contracts will be used to cross-check the number of jobs"**. This evidence has not been provided, leaving the claim unverified.
- **Significant Underperformance (SDGs 13, 6, & 15):** There is a substantial negative variance between the estimated and actual impacts for core project outputs. The actual achievements are significantly lower than their respective *ex-ante* estimates for the period:
  - **Emission Reductions (SDG 13): 8,296 tCO2e** achieved versus an estimate of **24,276 tCO2e**.
  - **Safe Water Delivered (SDG 6): 35,905 m³** achieved versus an estimate of **109,749.5 m³**.
  - **Firewood Saved (SDG 15): 4,100.7 tonnes** achieved versus an estimate of **12,512.6 tonnes**.

The PP is required to provide a justification for this significant decrease in the achieved values.

Project Participant Response : — **Date:** 16/09/2025

- *SDG 7: The solar power system has generated 87110 kWh during the monitoring period and the pump consumed 64,414kWh. Although the solar power system has the capacity to fully cover the pump consumption, the electricity generated cannot be fed to the grid. The project developer has applied for connection to the authorities and waiting for approval. Please see the screenshot taken on 12/09/2025 from the REMO platform through which the power generation and consumption monitored remotely. The report produced by Offgridsun staff summarizes the production and consumption during the monitoring period. Section D.2 and E.2 are revised accordingly.*
- *SDG 8: The number of jobs created is revised as 23. The official list of employees with their salaries is provided to the bank for monthly payment. A sample bank letter is provided.*
- *The project system performance is not low but the amount of water recorded at kiosk and private connections were accounted as per the methodology. A huge portion of the treated water is lost due to theft. Please see our response to CL1 above. Section B.1, E.1 and E.2 of the monitoring report revised to include an explanation for low performance.*

Documentation Provided as Evidence by Project Participant:

Solar power production and consumption by pump.pdf

REMO portal screenshot_12092025

Employee_list

Information Verified by Team Leader:

The VV Team has reviewed the provided evidences and recognized justifications, and the following noted: • **Regarding SDG 7:** We acknowledge the evidence provided (REMO platform screenshot and summary report) confirming the generation of **87,110 kWh** of renewable energy, which is sufficient to verify this value. However, regarding the inability to feed surplus electricity to the grid, please provide a further clarification of the strategy to manage this situation and mitigate any potential long-term impacts. Furthermore, this updated value must be reflected in **Table 1 (Page 3)** of the MR. Pending this clarification and the required revision, this point remains **Open**. • **Regarding SDG 8 (Jobs):** The revised figure of **23 jobs** and the supporting sample bank letter are accepted as sufficient evidence. However, this revised number must be updated in **Table 1 (Page 3)** of the MR to ensure consistency. Pending this revision, this point remains **Open**. • **Regarding SDG 13, 6, & 15 (Performance Variance):** The justification provided for the variance between estimated and actual impacts is acknowledged. The explanation and corresponding revisions to the monitoring report are satisfactory. This part of the clarification is now considered **Closed**.
Reasoning for not Acceptance or Acceptance and Close Out:
Pending clarifications and revisions required in point 1 and 2, CL-6 remains **Open**.

Acceptance and Close out by Team Leader: Open	**Date:** 07/10/2025
Project Participant Response:	**Date:** 17/10/2025

Regarding SDG 7: The project plans to establish a connection to the grid for the surplus electricity generated by the solar panels. The net-metering regulation has been enforced on 26/07/2024 and being implemented throughout the country recently. The Project will do an agreement with Kenya Power for the purpose. Please see the declaration of Offgridsun regarding this issue attached. Section E.2 in the MR has been revised. **Regarding SDG8:** Table.1 is revised as requested.
Documentation Provided as Evidence by Project Participant:
Statement maji safi on connecting to grid.pdf *GS11544_V1.1-Monitoring-Report_MP1_v2.1_TC.docx*
Information Verified by Team Leader:
The VVB has reviewed the revised Monitoring Report (GS11544_V1.1-Monitoring-Report_MP1_v2.1_TC.docx) and the supporting Statement maji safi on connecting to grid.pdf . We confirm that all requested revisions to the MR, including the updates to Table 1 (SDG 8) and Section E.2 (SDG 7), have been satisfactorily completed. The PP's clarification regarding the strategy for grid connection is noted and accepted.
Reasoning for not Acceptance or Acceptance and Close Out:
The MR has been revised correctly, and the justification for the grid connection strategy is accepted. The clarification is sufficient, and no further action is required for this monitoring period. CL-6 is **Closed**.

Acceptance and Close out by Team Leader: Closed	**Date:** 26/10/2025

Date:	28/07/2025		Raised by:	VVB Team	
Type:	CL	Number:	7	Reference:	Site Visit Finding; MR Section E.5; Challenge Statement; PDD Section B.7.3

Team Leader Comment:	**Date:** 28/07/2025
Site visit findings show a 65% water loss, with only 35% of pumped water reaching users. The high level of water loss suggests this process is not functioning as designed. The PP is requested to provide an explanation of the causes for this water loss (pipe bursts, leakage, etc.) and how this issue is to be remedied.	
Project Participant Response :	**Date:** 16/09/2025

Once the water loss detected, the infrastructure has been checked for evidence of leakages, and none was detected. Therefore, the loss is suspected to come from thefts which is identified one of reason for high non-revenue water rates in Kenya. The estimated Kenya's average of NRW ratio was 41% (2017-2018) as Non-revenue Water Management Annual Report-2017-2018

(https://www.water.go.ke/sites/default/files/publications/Annual%20Report%20Non%20Revenue%20Water%20finall.pdf)

Siaya -Bondo Water and Sanitation Company (SIBOWASCO) reported 52% non-revenue water rate for 2023/2024 period. That is higher than the country average.

https://sibowasco.co.ke/wp-content/uploads/2024/12/SIBOWASCO-LATEST-TARIFF.pdf

This issue was raised as a deviation request to GS. Please see our response to clarification 1 above regarding the postponement of WASH campaign.

Documentation Provided as Evidence by Project Participant:

N/A

Information Verified by Team Leader:

The PP's explanation attributing the significant water loss to Non-Revenue Water, likely from theft, has been reviewed. The contextual data provided on national and regional NRW rates confirms this is a prevalent issue. The VVB also acknowledges that this was the subject of a deviation request to the Gold Standard, as referenced in the response to CL 1.

Reasoning for not Acceptance or Acceptance and Close Out:

The issue of high-water loss has been assessed. For the current monitoring period, the emission reduction calculations are correctly based on the volume of water sold at the kiosks, thereby excluding the lost water from the quantification. For this reason, this finding is closed for the current monitoring period.

However, a 65% water loss is a critical issue that affects the project's long-term sustainability and impact. Therefore, a **Forward Action Request (FAR#1)** has been raised. The PP will be required to develop and begin implementing a plan to reduce these losses, and progress will be assessed during the next verification.

Acceptance and Close out by Team Leader: Closed	**Date:** 13/10/2025

C. CAR from this verification

Date:	28/07/2025		Raised by:	VVB Team		
Type:	CAR	Number:	1		Reference:	MR – Table 2 (page 3)
Team Leader Comment:				**Date:** 28/07/2025		
It has been noticed that the head of the third column in Table 2 (page3) was taken from the MR template as it is without change it. So, the PP is kindly requested to adjust the table headings for "Product A".						
Project Participant Response:				**Date:** 16/09/2025		
Table 2 is revised as VERs.						
Documentation Provided as Evidence by Project Participant:						
GS11544_V1.1-Monitoring-Report_MP1_v2.0_TC						
Information Verified by Team Leader:						
It has been noticed that in Table 2 the Column "Product A" renamed to "VERs".						
Reasoning for not Acceptance or Acceptance and Close Out:						
Regarding the change observed, CAR-1 is Closed.						
Acceptance and Close out by Team Leader: Closed				**Date:** 06/10/2025		

Date:	28/07/2025		Raised by:	VVB Team		
Type:	CAR	Number:	2		Reference:	MR – A.2. section 2, "Table 2: Coordinates" (Page 5)
Team Leader Comment:				**Date:** 28/07/2025		
Regarding to the GS4GG Monitoring Report Template Guide, "Guide to Completing the Monitoring Report" Section (Pages 2 – 3), Articles 17, which states: "Pictures, graphs, tables and supporting documents within Project Documentation shall be clearly marked with a unique ID", regarding this: In the drafted MR, "Table 2 Coordinates" (Page 5), the PP is kindly requested to recode the table to a unique ID "Table 3" and adjust the subsequent tables accordingly. Additionally, it would be helpful to highlight the figure again with a new name, in which clearly elaborate further on what the 'Coordinates' represent. It is encouraged to review the same matter in other figures/tables in this MR, including, but not limited to, the table under Table 4 (New Kiosks) (Page 9). In fact, for this table specifically, for the "Start dare of operation" column, if there is no date available, mention clearly that the kiosk hasn't have been operationalized yet, or whatever the state of the kiosk is.						
Project Participant Response:				**Date:** 16/09/2025		
Table numbers are updated. A new map showing the water points with service areas are placed. The coordinates represent the uppermost points at each direction for the combined service area. *Nyagera kiosk is closed due to the low demand from households. The kiosk and its service area is deleted from the revised project map.*						
Documentation Provided as Evidence by Project Participant:						
GS11544_V1.1-Monitoring-Report_MP1_v2.0_TC						
Information Verified by Team Leader:						

The VV Team has noted that:

1. All tables in the MR are conformed with the guides mentioned in the MR Template Guide.
2. *A new map showing the water points with placed service areas was observed and aligns with the MR Template Guide.*
3. *Nyagera kiosk is observed to be documented as "Closed" in the MR, also as "Excluded" at the ER Calculation Excel file. The exclusion was ensured, cross-checked along the ER Calc., and the calculations and results reflected correctly to the MR.*

But also, it has been noted that:

1. In the MR, Section C (Page 17), it has been mentioned: "During the monitoring period, the kiosks were out of operation in April and May 2024 due to flooding of the pump (Figure 6). The total amount of water supplied through 20 kiosks are metered during the monitoring period 20/09/2023- 31/05/2025 as 35, 905,000 liters."
   a. The mentioned figure it is figure 8 not 6.
   b. The number of kiosks, after excluding NYAGERA Kiosk, is 19 not 20, also the total amount of water supplied through 20 kiosks should be replaced with the correct amount after the exclusion of NYAGERA kiosk.
2. In the ER Calc., "Water Supplied" sheet:
   a. In Cell "C35", the "Total Consumption metered" parameter is calculated in m^3 bases, not in liters. PP to correct the unit of this parameter in the mentioned cell.
   b. In Cell "E35", PP is to clarify how the exclusion of Nyagera kiosk did not affect the "total consumption metered", which remained 35,905 m^3?
   c. In Cell "J21", PP is to clarify why the "Total Consumption based on population" value was calculated based on the number of "Population" that calculated through the Monitoring Survey and the Usage Rate Survey, mentioned in Cell "J17", not by that figure mentioned in Cell "K17" which was calculated through Solistice platform? And how is this approach aligning with the principle of conservativeness?

Reasoning for not Acceptance or Acceptance and Close Out:

According to what it has been noted by the VV Team, CAR-2 is **Open**.

Acceptance and Close out by Team Leader: Open	**Date:** 06/10/2025
Project Participant Response :	**Date:** 16/09/2025

Table numbers are updated. A new map showing the water points with service areas are placed. The coordinates represent the uppermost points at each direction for the combined service area.

Nyagera kiosk is closed due to the low demand from households. The kiosk and its service area is deleted from the revised project map.

Documentation Provided as Evidence by Project Participant:

GS11544_V1.1-Monitoring-Report_MP1_v2.0_TC

Information Verified by Team Leader:

The VV Team has noted that:

1. All tables in the MR are conformed with the guides mentioned in the MR Template Guide.
2. *A new map showing the water points with placed service areas was observed and aligns with the MR Template Guide.*
3. *Nyagera kiosk is observed to be documented as "Closed" in the MR, also as "Excluded" at the ER Calculation Excel file. The exclusion was ensured, cross-checked along the ER Calc., and*

it has been noted that:

1. In the Monitoring Report (MR), Section C (Page 17): It is stated that: "*During the monitoring period, the kiosks were out of operation in April and May 2024 due to flooding of the pump (Figure 6). The total amount of water supplied through 20 kiosks are metered during the monitoring period 20/09/2023 – 31/05/2025 as 35,905,000 liters.*"
   a. The referenced figure should be Figure 8, not Figure 6.
   b. The number of kiosks—after excluding the NYAGERA kiosk—is 19, not 20. Accordingly, the total amount of water supplied through 20 kiosks should be revised to reflect the correct value after excluding the NYAGERA kiosk.
2. In the Emission Reduction Calculation (ER Calc.) file, "Water Supplied" sheet:
   a. In Cell C35, the parameter "Total Consumption Metered" is expressed in m³, not liters. The PP should correct the unit label in this cell accordingly.
   b. In Cell E35, the PP should clarify how the exclusion of the Nyagera kiosk did not affect the reported "Total Consumption Metered," which remains 35,905 m³.
   c. In Cell J21, the PP should clarify why the "Total Consumption Based on Population" was calculated using the population figure derived from the Monitoring and Usage Rate Surveys (Cell J17) rather than the figure from the Solstice platform (Cell K17). Additionally, the PP should explain how this approach aligns with the principle of conservativeness.

Reasoning for not Acceptance or Acceptance and Close Out:

According to what it has been noted by the VV Team, CAR-2 remains **Open** until full compliance is demonstrated.

Acceptance and Close out by Team Leader: Open	**Date:** 06/10/2025

Project Participant Response :	**Date:** 17/10/2025

1. *The total number of kiosks and referred figure is corrected.*
2. *a. Cell 35 in "Water Supplied" sheet in ER calculation sheet is corrected.*

b. The kiosk was operational between 20/09/2023- 28/03/2024 and then the consumption is accounted as zero. The number of kiosks operational at each instance of meter reading has been added to the "Water Supplied" tab, cells G7:G27.

c. total water consumption based on Solstice data is added to the ER calculation sheet. This conservative value has been taken into account and MR is revised accordingly.

Documentation Provided as Evidence by Project Participant:

GS11544_V1.1-Monitoring-Report_MP1_v2.1_TC.docx

GS11544_ER calculations_MR1_v3.0

Information Verified by Team Leader:

The VV Team has verified the PP's corrections and evidence as follows:

- MR tables conform to the template guide and the updated map with service areas aligns with the water-point list and ER IDs.
- MR Section C is corrected (reference now Figure 8; 19 active kiosks). Nyagera is shown operational to 28/03/2024 then zeroed; exclusion is consistently carried through the ER calculations and totals reconcile.
- In "Water Supplied," cell C35 is correctly labeled in m³; the total of 35,905 m³ is consistent with the revised MR.
- The added series G7:G27 evidences the number of operational kiosks at each reading and confirms no inflation after Nyagera's closure.
- Solstice-derived total consumption has been added and applied as the conservative basis; the MR is revised accordingly and the approach is consistent with conservativeness.

Reasoning for not Acceptance or Acceptance and Close Out:

Corrective actions were implemented as requested. Review of supporting documentation and follow-up assessment confirm that the root cause has been effectively addressed. CAR-2 is **Closed**.

Acceptance and Close out by Team Leader: Closed	**Date:** 26/10/2025

Date:	28/07/2025		Raised by:	VVB Team		
Type:	CAR	Number:	3		Reference:	MR - B.1. subsection (Page 7)

Team Leader Comment:	**Date:** 28/07/2025

Regarding to the GS4GG Monitoring Report Template Guide, "B.1." Section's box (Page 8): "*Provide information on the implementation and actual operation of the project including relevant dates (e.g. construction, commissioning, start of operation). If the project activity consists of more than one site, describe the status of implementation and start date of operation for each site. If the project activity is implemented in phases, indicate the progress of the project activity achieved in each phase. Clearly state if there have been any changes from the project design that was envisaged at Design Certified PDD (for example technology types/specifications)*", regarding this:

This subsection includes a main body and a sub-branch, B.1.1. However, the main body appears to be entirely missing. The content currently placed in section C seems to belong to Subsection B.1. instead. The PP is kindly requested to write and fill up B.1 as required from the MR template guide and see "SDWS 2" table – "Description" row (Pages 17 – 18) in the "Methodology for Emission Reductions from Safe Drinking Water Supply".

Note: As for Section C itself, a content related to the monitoring system that was implemented should be written. Subsection B.7.3 in the PDD may be useful.

Project Participant Response:	**Date:** 16/09/2025

Section B.1 is revised to include the system specifications as indicated in the registered PDD, operational date for each kiosk, changes made to the design.

Same information has been deleted from Section C which includes the monitoring activities and results.

Documentation Provided as Evidence by Project Participant:

GS11544_V1.1-Monitoring-Report_MP1_v2.0_TC

Information Verified by Team Leader:

The revised Monitoring Report (GS11544_V1.1-Monitoring-Report_MP1_v2.0_TC) has been reviewed. The VVB confirms that Section B.1 has been correctly updated with project implementation details and Section C has been revised to appropriately describe the monitoring activities.

Reasoning for not Acceptance or Acceptance and Close Out:

The revisions made to the Monitoring Report are deemed correct and satisfactorily address the corrective action request.

Acceptance and Close out by Team Leader: Closed	**Date:** 12/10/2025

Date:	28/07/2025		Raised by:	VVB Team		
Type:	CAR	Number:	4		Reference:	MR (Across the whole report)

Team Leader Comment:	**Date:** 28/07/2025

There are some cross-references (mentioning the ID of a table or a figure in the main body of the MR content) that indicated to false figures or tables (e.g. Page 10, "Figure 6" which is supposed to be Figure 3). The PP is kindly requested to check the drafted MR's cross-references again, and make sure that each cross-reference does mention the right Figure/Table.

Project Participant Response:	**Date:** 16/09/2025

Monitoring report is checked and revised for cross- references to the figures and tables.

Documentation Provided as Evidence by Project Participant:

GS11544_V1.1-Monitoring-Report_MP1_v2.0_TC

Information Verified by Team Leader:

All cross-references in the updated MR are corrected and reflect the right figures.

Reasoning for not Acceptance or Acceptance and Close Out:

Verified and found satisfactory. Issue **Closed**.

Acceptance and Close out by Team Leader: Closed	**Date:** 07/10/2025

Date:	28/07/2025		Raised by:	VVB Team	
Type:	CAR	Number:	5	Reference:	MR – Section C, Table 5 (Page 12)

Team Leader Comment: **Date:** 28/07/2025

In the "Table 5. Models and average lifetime of the equipment" (Page 12), it is important to provide us with references as a documentation tool. The PP is kindly requested to provide the references and associated documents as evidence.

Project Participant Response : **Date:** 16/09/2025

Equipment brochures are provided along with the hydro experts report on lifetime of the equipment.

The workplan submitted and implemented by Jerri Hydro Expert is also provided.

Documentation Provided as Evidence by Project Participant:

Folder: Equipment Brochures

Reports: JerriHydro_PROJECT LIFETIME.pdf and JerriHydro_USIGU WATER SUPPLY PROJECT WORK PLAN_revised.pdf

Information Verified by Team Leader:

The corrective actions have been implemented and verified. Evidence reviewed and confirm effective resolution of the issue.

Reasoning for not Acceptance or Acceptance and Close Out:

No further action required. CAR-5 is **Closed**.

Acceptance and Close out by Team Leader: Closed **Date:** 07/10/2025

Date:	28/07/2025		Raised by:	VVB Team	
Type:	CAR	Number:	6	Reference:	MR – D.1. and D.2. sections (Pages 20 – 40)

Team Leader Comment: **Date:** 28/07/2025

Regarding to the GS4GG Monitoring Report Template Guide, "D.1. Data and parameters fixed ex ante or at renewal of crediting period" section (Page 10) and "D.2. Data and parameters monitored" section (Page 11), in the description box both of them state that: "Where ex ante (or monitoring) parameters are used to calculate more than one SDG (for example Usage Rate), always include it under the SDG 13 heading first (if relevant) and use Additional Comment to explain which other SDGs rely on the same parameter. Do not duplicate parameter tables.", regarding this:

In the drafted MR, the "D.1. Data and parameters fixed ex ante or at renewal of crediting period" section (Pages 20 – 31) and "D.2. Data and parameters monitored" section (Pages 32 – 40), the PP is kindly requested tocheck the parameters under SDG 13 and ensure that if any of them are relevant to other SDGs it's mentioned in the "Additional Comment" row. (e.g. SDWS 4 & 5 are relevant to SDG 6, SDWS 12 is related to SDG 3).

Project Participant Response : **Date:** 16/09/2025

Section D.1 Data and parameters fixed ex ante or at renewal of crediting period is updated to include the references to the SDGs other than SDG13

Documentation Provided as Evidence by Project Participant:

GS11544_V1.1-Monitoring-Report_MP1_v2.0_TC

Information Verified by Team Leader:

The mentioned parameters were updated, and this corrective action was implemented as planned. A review of the new "Additional Comments" in the updated MR and follow-up Sections D.1 and D.2 confirms that the relevant SDG has been addressed.

Reasoning for not Acceptance or Acceptance and Close Out:

Verified and found satisfactory. CAR-6 **Closed**.

Acceptance and Close out by Team Leader: Closed **Date:** 07/10/2025

Date:	28/07/2025	Raised by:	VVB Team

Type:	CAR	Number:	7	Reference:	MR – SDWS 17 – "Data/ Parameter" row (Page 31)

Team Leader Comment:	**Date:** 28/07/2025
In the drafted MR, the "D.1. Data and parameters fixed ex ante or at renewal of crediting period" section, in SDWS 17 – "Data/ Parameter" row (Page 31), the PP is kindly requested to correctly write the nomenclature of the "Transmission and distribution losses associated with the electricity use" as "TDL_{ec}" NOT "TDL".	
Project Participant Response:	**Date:** 16/09/2025
The parameter is revised as TDL_{ec} as requested	
Documentation Provided as Evidence by Project Participant:	
GS11544_V1.1-Monitoring-Report_MP1_v2.0_TC	
Information Verified by Team Leader:	
After reviewing the MR, the mentioned parameter has been updated as requested, and the corrective action is verified.	
Reasoning for not Acceptance or Acceptance and Close Out:	
CAR-7 confirmed and **Closed**.	
Acceptance and Close out by Team Leader: Closed	**Date:** 07/10/2025

Date:	28/07/2025		Raised by:	VVB Team	
Type:	CAR	Number:	8	Reference:	MR – D.2. section, (Pages 32 – 40)

Team Leader Comment:	**Date:** 28/07/2025
It is noticed that the SDWS tables were copied as they are from the PDD, and the tenses in the PDD express the intentions by phrasing a future-tenses, so: In the drafted MR, the "D.2. Data and parameters monitored" section (Pages 32 – 40), the PP is kindly requested to check the content of the tables again, and change the tenses from future tenses to past, past continuous, past perfect, or past perfect continuous tenses. Also, there are some other contexts that express the future and intentions, should be also edited (e.g., "Laboratories used for water quality testing **will be** approved by local health authorities **and/or have quality accreditation**" should become "Laboratories used for water quality testing **have been** approved by local health authorities **[and have/but have not] been have quality accreditation**").	
Project Participant Response:	**Date:** 16/09/2025
The language in Section D.2 is revised as requested.	
Documentation Provided as Evidence by Project Participant:	
GS11544_V1.1-Monitoring-Report_MP1_v2.0_TC	
Information Verified by Team Leader:	
The VV Team has reviewed the updated MR in Section D.2 and noted that all the corrective actions required were implemented and that all future tenses changed sufficiently.	
Reasoning for not Acceptance or Acceptance and Close Out:	
Verified and found satisfactory. Issue **Closed**.	
Acceptance and Close out by Team Leader: Closed	**Date:** 07/10/2025

Date:	28/07/2025		Raised by:	VVB Team	
Type:	CAR	Number:	9	Reference:	MR – SDWS 25 – "Additional Comment" row (Page 36)

Team Leader Comment:	**Date:** 28/07/2025
It is noticed that the SDWS tables were copied as they are from the PDD, and the dates provided in the "Additional Comments" row in SDWS 25 table have not yet been updated, even though the figures in the "Value(s) applied" row in the same table have been updated, so: In the drafted MR, "D.2. Data and parameters monitored" section, in SDWS 25 (Pages 35 – 36), the PP is kindly requested to update the dates that are mentioned in the "Additional Comment" row to dates of the last new surveys were carried out.	
Project Participant Response :	**Date:** 16/09/2025

SWDS 25- HNp,y: Number of individuals per premises type p in the project boundary in year y ; additional comment section is updated to include monitoring survey dates 27-28 November 2024.
Documentation Provided as Evidence by Project Participant:
GS11544_V1.1-Monitoring-Report_MP1_v2.0_TC
Information Verified by Team Leader:
It has been noticed that the date in the HNP,y parameter table was updated with the right date.
Reasoning for not Acceptance or Acceptance and Close Out:
Actions confirmed and **Closed**.
Acceptance and Close out by Team Leader: Closed — **Date:** 07/10/2025

Date:	28/07/2025		Raised by:	VVB Team	
Type:	CAR	Number:	10	Reference:	Calculation MR.xlsx – "Water Supplied" sheet, Cell: J21

Team Leader Comment: — **Date:** 28/07/2025
In the Calculation MR.xlsx, in the "Water Supplied" sheet, there is a simple narrative of the calculations, the total population served by the project, multiplied by the litres every person consumes, and then subtract the amount of losses in the days were counted as a maintenance days, but this amount of losses counted within the whole period (dry and wet seasons), not just the dry days as the current formula do. The PP is kindly requested to include the water losses caused by maintenance in the wet days by applying the following formula "=J18*J13-(J19**+J20**)" NOT "=J18*J13-J19"
Project Participant Response : — **Date:** 16/09/2025
Formula in cell J21in "Water supplied" tab has been corrected to include the maintenance occurred in wet season as well.
Documentation Provided as Evidence by Project Participant:
GS11544_ER calculations_MR1_v2.0
Information Verified by Team Leader:
The VV Team confirms that the mentioned formula *has been corrected to include the maintenance occurred in wet season*
Reasoning for not Acceptance or Acceptance and Close Out:
Verified and found satisfactory. CAR-10 **Closed**.
Acceptance and Close out by Team Leader: Closed — **Date:** 07/10/2025

Date:	28/07/2025		Raised by:	VVB Team	
Type:	CAR	Number:	11	Reference:	MR section B.1.1 (page 7)

Team Leader Comment: — **Date:** 28/07/2025
Regarding to the GS4GG Monitoring Report Template Guide, "B.1.1" Section's box (Page 8): "Declare any Forward Action Requests from Design Certification (1st Monitoring Period) or previous Performance Certifications and briefly summarise how they have been addressed." The PP has declared 2 FARs from the preliminary review, however they have not provided a summary on how they are to be addressed. Please revise the section with the requested information, also provide the design certification form from the valdiation.
Project Participant Response : — **Date:** 16/09/2025
Section B.1.1 is updated to provide detailed information regarding the FARs raised during preliminary review.
Documentation Provided as Evidence by Project Participant:
GS11544_V1.1-Monitoring-Report_MP1_v2.0_TC
Information Verified by Team Leader:
The project participant has revised Section B.1.1 of the Monitoring Report to include a detailed summary addressing the two FARs raised during the preliminary review. The update aligns with the requirements of the GS4GG Monitoring Report Template Guide.
Reasoning for not Acceptance or Acceptance and Close Out:

The corrective action has been verified, and the issue is now considered satisfactorily **Closed**.	
Acceptance and Close out by Team Leader: Closed	**Date:** 07/10/2025

Date:	28/07/2025		Raised by:	VVB Team		
Type:	CAR	Number:	12		Reference:	MR Section C, WASH Campaigns; Site Visit Finding; PDD Section B.2 (i) & B.7.1 (SDWS 20)
Team Leader Comment:				**Date:** 28/07/2025		
The site visit to Kanyibok Secondary School, a location for these sensitization activities, revealed the absence of handwashing soap at the handwashing station. The lack of essential supplies like soap undermines the practical application and effectiveness of the hygiene education provided. The PP is requested to clarify if locations are adequately equipped to facilitate the hygiene behaviors promoted by the project.						
Project Participant Response :				**Date:** 16/09/2025		
The school management and students confirmed that they received WASH training from our project during the verification site visit. Upon our enquiry with the school administration, we were informed that they placed soaps at the handwashing stations but could not keep them. There were incidents that the soaps were getting stolen or misused by the students. During the monitoring survey, 96% of the households are found to have soap or detergent available at their hand washing facilities; which is another measure for WASH campaigns. On September 2025, we will organize our annual WASH campaign and including the school. We will highlight the issue during the training of pupils. We will also evaluate the possible contribution of project providing the school with some soap supplies if necessary.						
Documentation Provided as Evidence by Project Participant:						
N/A						
Information Verified by Team Leader:						
The project participant has provided sufficient clarification regarding the unavailability of soap at Kanyibok Secondary School. The explanation, supported by feedback from the school management and reference to household monitoring survey results, demonstrates that the issue is context-related rather than a systemic shortcoming of project implementation. The planned inclusion of the school in the upcoming WASH campaign and consideration of additional soap support further ensures the sustainability of hygiene practices. The WASH campaigns documented in the MR and monitored in the Site Visit also confirm that sufficient attention has been paid to these hygiene activities						
Reasoning for not Acceptance or Acceptance and Close Out:						
The clarification is accepted, and the issue is considered satisfactorily **Closed**.						
Acceptance and Close out by Team Leader: Closed				**Date:** 07/10/2025		

Date:	28/07/2025		Raised by:	VVB Team		
Type:	CAR	Number:	13		Reference:	MR – Section C; Site Visit Finding; PDD Section B.7.3
Team Leader Comment:				**Date:** 28/07/2025		
The monitoring plan includes cross-checking water volumes via a "Bulk master meter at the pump house" to monitor the gross amount of water pumped. The site visit revealed that this raw water tank meter was dismantled due to clogging. PP to clarify on measures taken to mitigate the issue and ensure compliance.						
Project Participant Response :				**Date:** 16/09/2025		

The reference is given for pump house meter placed at the exit of treatment structure; not to the raw water tank meter. The raw water tank meter is not the same of the pump house meter. At the pump house meter, we have the real number of cubic meters pumped, because the raw water tank meter is after the rising main line and doesn't include eventual losses in that pipeline. *The quantity of water supplied at each kiosks are remotely readable. The value is cross-checked by manual readings done at the end of each month at the kiosks by the project staff for cross-checking. The private connections are read manually.*
Documentation Provided as Evidence by Project Participant:
GS11544_V1.1-Monitoring-Report_MP1_v2.0_TC
Information Verified by Team Leader:
The PP has provided a clear explanation distinguishing between the raw water tank meter and the bulk master meter located at the pump house. It was confirmed that the dismantling of the raw water tank meter does not affect the monitoring accuracy, as the pump house meter remains operational and accurately records the total volume of water pumped. Cross-checking through remote readings at kiosks and manual verification by project staff further ensures the precision and reliability of the monitoring data.
Reasoning for not Acceptance or Acceptance and Close Out:
The clarification and supporting information are deemed sufficient. CAR-13 is considered satisfactorily **Closed**.

Acceptance and Close out by Team Leader: Closed	**Date:** 07/10/2025

D. FAR from this verification

Date:	13/10/2025		Raised by:	VVB Team	
Type:	FAR	Number:	1	Reference:	Site Visit Finding; MR Section E.5; Challenge Statement; PDD Section B.7.3

Team Leader Comment:	**Date:**
A water loss of approximately 65% was identified during the site visit for the current monitoring period (September 2023 - May 2025). The PP has attributed this to Non-Revenue Water, likely from theft, which is a known issue in the region. A loss of this magnitude is considered unsustainable and poses a significant risk to the long-term operational and financial viability of the project. The PP is requested to: 1. Develop a formal plan to systematically address and reduce the high level of NRW. 2. This plan should include, at a minimum: specific actions to be taken (e.g., community sensitization, technical surveys, registration of illegal connections), measurable targets for water loss reduction, and a clear timeline for implementation. Plans and actions taken to address this issue shall be assessed during the next verification	
Project Participant Response:	**Date:**
Documentation Provided as Evidence by Project Participant:	
Information Verified by Team Leader:	
Reasoning for not Acceptance or Acceptance and Close Out:	
Acceptance and Close out by Team Leader:	**Date:**

Appendix 5. Assessment of data and parameters fixed ex-ante at the time of validation and the date and parameters monitored

Executive Summary

This report presents a complete, parameter-by-parameter verification of the 'All Parameters.xlsx' for the Gold Standard project GS11544, "Maji Safi, Maisha Bora Project." The verification audit covers the project's first monitoring period (MP1), which spans 20 September 2023 to 31 May 2025. The audit was conducted by cross-referencing the provided parameter list against all core project documentation, including the registered Project Design Document (PDD, V3.5), the final Monitoring Report (MR v2.2), all associated emission reduction (ER) calculation files, and the complete Validation and Verification Body (VVB) findings, including the final Verification Report.

All parameters listed in the 'All Parameters.xlsx' file are verified as accurate, traceable, and logical within the context of the project's final, certified MP1 submission. The values are methodologically sound and have been accepted by the VVB (Ampere), as evidenced by the formal closure of all relevant Corrective Action Requests (CARs) and Clarification Requests (CLs). A central finding of this verification is that the final certified emission reductions of 8,296 tCO2e are demonstrably conservative. This conservatism is a direct result of the VVB's enforcement of a critical methodological point: emission reductions are calculated only on the metered volume of water sold ($Q_{m,y}$ = 35,905 m³), and not the total volume pumped. This approach conservatively excludes an estimated 65-70% of water lost to Non-Revenue Water (NRW), a fact documented in the MR and discussed in VVB findings. This verification confirms the robustness and conservatism of the final certified claim.

I. Verification Record: Fixed Ex Ante Parameters

This section details the verification of parameters established at the project's design phase (ex ante). These values form the baseline scenario against which project performance is measured. They are sourced from the PDD and transcribed into the Monitoring Report.

A. Baseline Survey Parameters (PDD & MR)

These parameters were established during the initial project design via a baseline survey of the target population.

- SDWS 1: Number of household/institution per CWT/CWS The value "4,705 (West Yimbo), 5,743 (East Yimbo)" is verified as the correct ex ante baseline. It is sourced directly from the PDD and identically recited in the MR. This value represents the total eligible premises identified at the design stage.

  It is critical to note that this fixed value for East Yimbo (5,743) was subsequently corrected for monitoring purposes. As documented in the MR and the VVB's findings for CAR-2, the "Nyagera Kiosks" was closed and "excluded from the project boundary." This design change resulted in a corrected baseline for East Yimbo, reducing the household count to 5,521. The value "5,743" is correct as the original fixed parameter (SDWS 1), and its modification for the monitored parameter (SDWS 26 in the MR) is a separate, verified step.

- SDWS 5: Water sources in the project boundary The value "98% (of population use unimproved sources)" is verified. It is sourced from the PDD, which states, "142 respondents out of 145 were drinking water from unimproved sources which is 98% of the population." This is identically recited in the MR. This value is a direct output of the baseline survey, establishing the project's eligibility by confirming the baseline scenario involved unsafe water.

- SDWS 6: Stove technologies used in the project boundary The value "(Baseline mix, e.g., 3-stone fire: 52% Dry, 32% Wet)" is verified as a correct, though partial, representation of the baseline mix. The full mix is detailed in the PDD and the MR. This parameter is a component used, along with SDWS 8 and SDWS 11, to calculate the weighted average baseline efficiency (eta_wb).

- SDWS 8: Percentage of fuel f use in target population (Xf) The value "Fuelwood (62% Dry, 42% Wet); Charcoal (38% Dry, 58% Wet)" is verified. It is sourced from the PDD and recited in the MR. The ER Calculation file confirms the precise fractions used in the calculation: Fuelwood (0.617 Dry, 0.420 Wet) and Charcoal (0.383 Dry, 0.580 Wet).

- SDWS 11: Weighted average efficiency of baseline boiling devices (eta_wb) The value "13.6% (Dry season); 12.4% (Wet season)" is verified. This value is calculated in the PDD based on the stove mix (SDWS 6) and stated as fixed in the MR. The ER Calculation file is the definitive source for the calculation, which lists eta_wb as 0.1244 (12.4%) for the Wet season and 0.1355 (13.6%) for the Dry season. While the MR and PDD text sometimes transpose the season labels, the calculation itself is internally consistent and was accepted by the VVB.

- SDWS 12: Proportion of end-users already using safe water (Cb) The value "0.36" is verified. It is sourced from the PDD, which details the baseline survey finding that 33% of users used "Purification tablets" and 3% already had access to improved sources. The MR and the ER Calculation file confirm Cb = 0.36. This is a conservative measure, as it discounts the baseline to ensure the project does not claim reductions from users who were already treating water non-thermally.

B. Technical & Default Parameters (Methodology & PDD)

These parameters are fixed values derived from the Gold Standard methodology, IPCC guidelines, or other authoritative sources, and were accepted at the PDD stage.

- SDWS 7: Expected technical life or project technology The value "at least 30 years" is verified. It is sourced from the PDD, which lists component lifetimes (e.g., inverters, kiosks) of 30 years and tanks up to 40+ years. This value was challenged by the VVB in CAR-5. The Project Proponent (PP) was required to submit evidence, including equipment brochures and the "JerriHydro_PROJECT LIFETIME.pdf" report. Upon receipt of this evidence, the VVB 'Closed' the finding, confirming the 30-year value is substantiated.

- SDWS 9: CO2 emission factor arising from use of wood fuel (EFb,f,CO2) The value "Fuelwood (112 tCO2e/TJ); Charcoal (165.22 tCO2e/TJ)" is verified. It is sourced from the PDD, MR, and the ER Calculation file. The cited source, "IPCC defaults; Volume 2:2006 IPCC Guidelines... Chapter 2, Table 2.5", is the correct and methodologically sound authority for these default factors.

- SDWS 10: Non-CO2 emission factor arising from use of wood fuel (EFb,f,nonCO2) The value "Fuelwood (9.46 tCO2e/TJ); Charcoal (44.83 tCO2e/TJ)" is verified. It is sourced from the PDD, MR, and ER Calculation file. These values are correctly derived from IPCC 2006 defaults combined with Global Warming Potential (GWP) values from the IPCC Fifth Assessment Report (AR5).

- SDWS 21: Non-renewability status of woody biomass fuel (fNRB,f,y) The value "0.76 (or 76%)" is verified. It is sourced from the PDD, MR, and ER Calculation file. The source is cited as "CDM TOOL30, calculation of the fraction of non-renewable biomass" and a project-specific "9 Eylul University Report". The VVB reports raised no findings on this parameter, indicating this specific study was accepted as valid evidence for the 0.76 value.

- SDWS 24: Volume of drinking water per person per day (QPWp) The value "4 Liters/person/day" is verified. It is sourced from the PDD, MR, and ER Calculation file. The PDD/MR cite this as the "Default value for full-day premises". The methodology allows a default or a monitored value capped at 4 L/person/day, making it logical and robust.

- SDWS 16: Emission factor associated with electricity use (EFec) The value "0.0008 tCO2/kWh" is verified. It is sourced from the PDD, MR, and ER Calculation file. This is the "Default value in the methodology" used to calculate Project Emissions (PE). The VVB explicitly reviewed and accepted the calculation using this value in its resolution of CL-3.

- SDWS 17: Transmission and distribution losses (TDLec) The value "0.2" (or 20%) is verified. It is sourced from the PDD, MR, and ER Calculation file. This is the "Default value in the methodology", which is applied to the EFec to calculate total Project Emissions. This was also reviewed and accepted by the VVB in its resolution of CL-3.

II. Verification Record: Monitored Parameters (MP1)

This section details the verification of parameters monitored during MP1 (20/09/2023 - 31/05/2025). The values are sourced from the MR, associated calculation files, and confirmed by the VVB reports.

A. Project Compliance and Activity Parameters

- SDWS 2, 3, 4: (Descriptive/Compliance Checks) The value "N/A (Descriptive/Compliance check)" indicates these are "Pass/Fail" parameters, not quantitative inputs. The VVB's audit confirms their successful completion.
    - SDWS 3 (Project technology performance level): This was a critical compliance check. FAR-2 from the validation required the PP to provide a water quality test at the start of the crediting period. The PP submitted the "water quality test October 2023.pdf". The VVB reviewed this evidence, found it sufficient to demonstrate compliance, and formally 'Closed' the finding.
    - SDWS 2 (Project technology description) & SDWS 4 (Regulatory framework): The VVB's on-site inspection confirmed that the installed technology (LORENTZ kiosks, tanks, etc.) matches the PDD description. The final positive verification opinion confirms compliance with all regulatory frameworks, including the "Water Act 2016, Kenya".
- SDWS 20: Water hygiene education campaigns The value "1 (campaign conducted)" is verified as correct at the time of the MR's publication. The MR details the campaign conducted in May-June 2024. However, the PDD requires annual campaigns. The VVB raised CL-1 because only one campaign was documented for the ~20-month monitoring period. The PP justified the delay, citing the intensive work on the NRW issue. The PP then conducted the second campaign (October 2025) during the verification, providing new evidence ("wash campaign attendance sheet.pdf"). The VVB accepted this and 'Closed' the finding.

B. Water Quantity and Quality (Monitored)

- SDWS 23: Monitored quantity of safe water provided (Qm,y) The value "35,905,000 Liters" is verified as the core monitored parameter. The ER Calculation file provides the monthly metered data ("Total (m3)") from October 2023 to May 2025, which sums precisely to 35,905 m³. This value is 35,905,000 Liters. The MR confirms this exact total.

  This value's verification is central to the project's integrity. As noted in the MR and VVB findings, this volume represents only the metered water sold at kiosks and private connections. It conservatively excludes an estimated 65-70% of pumped water lost to NRW (theft). The VVB's final report explicitly certifies this value: "ensuring 35,905 m³ of safe water was delivered."
- SDWS 18: Ongoing water quality modifier (Mq,y) The value "1 (100% pass rate from 40 samples)" is verified. The MR states the value is "1", and Section D.4 confirms this: "40 samples were taken to test absence/presence of E.Coli and all of them found to be clean (100%)." The ER Calculation file also uses Mq,y = 1. The VVB's on-site visit report confirms that the VVB visited the accredited "SPECTRA Lab" and "review[ed] 40 WQT results," confirming compliance. A value of "1" allows 100% of the monitored water (Qm,y) to be claimed as safe.

C. End-User Behavior and Demographics (Monitored)

- SDWS 22: Proportion of project end-users that boil safe water (Xcleanboil,y) The value "0.002 (or 0.2%)" is verified. The ER Calculation file lists the precise value as "0.0019108..." This parameter was the subject of CL-5. The VVB queried the calculation. The PP's response clarified the source from the monitoring survey: 6 out of 157 respondents (3.8%) reported boiling 5% of their water. The calculation is (6/157) * 0.05 = 0.00191. The VVB reviewed the survey questionnaire, confirmed 5% was a valid option from the Gold Standard template, and 'Closed' the finding.

- SDWS 25: Number of individuals per premises (HNp,y) This parameter, "5.2888... (East Yimbo), 5.44 (West Yimbo)," is listed in the ER Calculation files and the MR. These are monitored values from the "Project Survey" conducted "on 27-28 November 2024", and they replace the PDD's baseline household size for the Qpop,y calculation. The VVB raised CAR-9 to ensure the MR clearly cited this monitoring date. The PP complied, and the VVB 'Closed' the finding, thereby confirming its acceptance of these new, monitored values.

- SDWS 26: Number of premises type p served (HHp,y) The verified values are 5,064 (East Yimbo) and 4,315 (West Yimbo). This is a calculated parameter derived by multiplying the corrected baseline household counts (which account for the Nyagera kiosk closure) by the monitored usage rate of 0.917 (91.7%), as confirmed in the ER calculation file.

- SDWS 27: Days the project technology is operational (DOp,y) The value "619" is verified. This figure represents the total number of days within the defined monitoring period (20 September 2023 to 31 May 2025), as specified in the Monitoring Report and calculation files.

- SDWS 34: Quantity of (grid) electricity used by the project (ECp,y) The value "8,545.22 kWh" is verified. This represents the monitored grid electricity consumption for the year 2025, as documented in the MR and ER calculation file. This value was used to calculate total Project Emissions (PE) and was explicitly reviewed and accepted by the VVB in its resolution of CL-3.

- SDWS 35: Leakage emissions (LEy) The value "0" is verified. The Monitoring Report states that leakage emissions are considered negligible for this project type, as the risk of activity shifting is deemed very low. This approach was accepted by the VVB.

D. Monitored Sustainable Development (SDG) Outcomes

- These parameters represent the monitored co-benefits of the project, as certified in the final VVB report.

- SDG 3: Reduced incidents of water borne diseases The value "97%" is verified. This figure is sourced from the monitoring survey conducted on 27-28 November 2024, representing the proportion of the target population reporting no water-borne diseases.

- SDG 5: Perception of time savings The value "99%" is verified. This is the final monitored value from the project's household survey, representing the proportion of households that perceive time saved from no longer needing to collect wood or boil water.

- SDG 7: Total electricity produced: Renewable The value "87,110 kWh" is verified. This is the total renewable electricity generated by the project's solar systems during the monitoring period, as documented in the monitoring data.

- SDG 8: Jobs created The value "23" is verified. This represents the number of temporary and permanent local jobs created by the project for construction, maintenance, and operations.

- SDG 15: Amount of fuelwood saved The value "4,100.7 tonnes" is verified. This is a calculated outcome, not a directly monitored parameter. It is derived from the total energy saved by providing 35,905 m^3 of safe water, thereby avoiding the combustion of an equivalent amount of fuelwood, as detailed in the ER calculation file.

E. Monitored Safeguarding Parameters

- Safeguard 9.5: Transfer of chlorine This parameter is verified as "Compliance Confirmed." This is a safeguarding check, not a quantitative input. The VVB raised CL-2 to confirm safe handling. The PP provided a declaration of no leakages and invoices for the granular chlorine used. The VVB reviewed this evidence and formally 'Closed' the finding.

III. Comprehensive Parameter Verification and Reference Tables

The following table provides the definitive, parameter-by-parameter audit log, synthesizing the verification narrative from Sections I and II. It traces each parameter from its initial claim to its definitive source and provides the VVB's final judgment on its validity by referencing the specific finding or certification report that confirms its acceptance.

1. Fixed Ex Ante Parameters

Parameter Code	SDWS 1
Parameter Name	Number of household/institution per CWT/CWS
Abbreviation	-
Mentioned Value	4,705 (West Yimbo), 5,743 (East Yimbo)
Verified Value	4,705 (West Yimbo), 5,743 (East Yimbo)
Verification Notes & Logical Confirmation	VERIFIED. This is the correct ex ante baseline value from the PDD. This value was later corrected for monitoring (see SDWS 26 in MR) due to the closure of the Nyagera kiosk, as documented in the MR and VVB finding CAR-2

Parameter Code	SDWS 2
Parameter Name	Project technology description
Abbreviation	-
Mentioned Value	N/A (Descriptive)
Verified Value	Compliance Confirmed
Verification Notes & Logical Confirmation	VERIFIED. This is a compliance check. The VVB's on-site inspection confirmed the installed technology (LORENTZ kiosks, solar panels, tanks) matches the PDD description.

Parameter Code	SDWS 3
Parameter Name	Project technology performance level
Abbreviation	-
Mentioned Value	N/A (Compliance check)
Verified Value	Compliance Confirmed
Verification Notes & Logical Confirmation	VERIFIED. This is a critical compliance check. The VVB's FAR-2 required proof of water quality at the start of the crediting period. The PP provided the "water quality test October 2023.pdf" , which satisfied the VVB, and the finding was 'Closed'.

Parameter Code	SDWS 4
Parameter Name	Regulatory framework for safe water supply
Abbreviation	-
Mentioned Value	N/A (Descriptive)
Verified Value	Compliance Confirmed
Verification Notes & Logical Confirmation	VERIFIED. This is a compliance check. The MR confirms compliance with the "Water Act 2016, Kenya." The VVB's final positive verification opinion confirms this was accepted.

Parameter Code	SDWS 5
Parameter Name	Water sources in the project boundary
Abbreviation	-
Mentioned Value	98% (of population use unimproved sources)
Verified Value	98%
Verification Notes & Logical Confirmation	VERIFIED. Value is correct. Sourced from the baseline survey (142 of 145 respondents) as documented in the PDD and accepted by the VVB at validation.

Parameter Code	SDWS 6
Parameter Name	Stove technologies used in the project boundary
Abbreviation	-
Mentioned Value	(Baseline mix, e.g., 3-stone fire: 52% Dry, 32% Wet)
Verified Value	3-stone fire: 52% Dry, 32% Wet; Charcoal: 30% Dry, 49% Wet; Both: 17% Dry, 17% Wet; Improved: 1% Dry, 1% Wet.
Verification Notes & Logical Confirmation	VERIFIED. The "Mentioned Value" is an incomplete example. The full, verified mix is listed here, sourced from the PDD baseline survey and accepted at validation.

Parameter Code	SDWS 7
Parameter Name	Expected technical life or project technology
Abbreviation	-
Mentioned Value	"at least 30 years"
Verified Value	"at least 30 years"
Verification Notes & Logical Confirmation	VERIFIED. Value confirmed. The VVB raised CAR-5 requesting proof for these lifetime claims. The PP provided equipment brochures and expert reports, leading the VVB to 'Close' the finding.

Parameter Code	SDWS 8
Parameter Name	Percentage of fuel f use in target population
Abbreviation	X_f
Mentioned Value	Fuelwood (62% Dry, 42% Wet); Charcoal (38% Dry, 58% Wet)
Verified Value	Fuelwood: 0.617 (Dry), 0.420 (Wet); Charcoal: 0.383 (Dry), 0.580 (Wet).
Verification Notes & Logical Confirmation	VERIFIED. The ER calculation file uses the more precise values from the baseline survey, which align with the mentioned values.

Parameter Code	SDWS 9
Parameter Name	CO2 emission factor arising from use of wood fuel
Abbreviation	EF_{b,f,CO_2}
Mentioned Value	Fuelwood (112 tCO2e/TJ); Charcoal (165.22 tCO2e/TJ)
Verified Value	112 (Fuelwood); 165.22 (Charcoal)
Verification Notes & Logical Confirmation	VERIFIED. Standard default values. Source "IPCC defaults; Volume 2:2006 IPCC Guidelines... Chapter 2, Table 2.5" is correct and methodologically sound.

Parameter Code	SDWS 10
Parameter Name	Non-CO2 emission factor arising from use of wood fuel
Abbreviation	$EF_{b,f,nonCO_2}$
Mentioned Value	Fuelwood (9.46 tCO2e/TJ); Charcoal (44.83 tCO2e/TJ)
Verified Value	9.46 (Fuelwood); 44.83 (Charcoal)
Verification Notes & Logical Confirmation	VERIFIED. Standard default values. Sourced from IPCC 2006 and GWP values from IPCC AR5, which is methodologically correct.

Parameter Code	SDWS 11
Parameter Name	Weighted average efficiency of baseline boiling devices
Abbreviation	η_{wb}
Mentioned Value	13.6% (Dry season); 12.4% (Wet season)
Verified Value	12.4% (Wet); 13.6% (Dry)
Verification Notes & Logical Confirmation	VERIFIED. Values are correct. The calculation files and PDD (p.74) show a transposition of the seasons. The definitive calculation uses 12.4% (0.1244) for Wet Season and 13.6% (0.1355) for Dry Season. This was accepted by the VVB.

Parameter Code	SDWS 12
Parameter Name	Proportion of end-users already using safe water
Abbreviation	C_b
Mentioned Value	36%
Verified Value	0.36
Verification Notes & Logical Confirmation	VERIFIED. Value is correct. Sourced from the baseline survey (33% using chlorine + 3% using safe water). This is a conservative deduction from the baseline.

Parameter Code	SDWS 21
Parameter Name	Non-renewability status of woody biomass fuel
Abbreviation	f_{NRB}
Mentioned Value	0.76 (or 76%)
Verified Value	0.76
Verification Notes & Logical Confirmation	VERIFIED. Value is correct. Sourced from "CDM TOOL30" and a project-specific "9 Eylul University Report". The VVB did not raise findings on this, indicating the source was accepted.

Parameter Code	SDWS 24
Parameter Name	Volume of drinking water per person per day
Abbreviation	QP_{wp}
Mentioned Value	4 Liters/person/day
Verified Value	4
Verification Notes & Logical Confirmation	VERIFIED. Value is correct. This is a conservative default value from the methodology.

Parameter Code	SDWS 16
Parameter Name	Emission factor associated with electricity use
Abbreviation	EF_{ec}
Mentioned Value	0.0008 tCO2/kWh
Verified Value	0.0008
Verification Notes & Logical Confirmation	VERIFIED. Correct default value cited from the methodology. Its application was explicitly reviewed and accepted by the VVB in CL-3.

Parameter Code	SDWS 17
Parameter Name	Transmission and distribution losses
Abbreviation	TDL_{ec}
Mentioned Value	20%
Verified Value	0.2
Verification Notes & Logical Confirmation	VERIFIED. Correct default value (20%) cited from the methodology. Its application was reviewed and accepted by the VVB in CL-3.

2. Monitored Parameters

Parameter Code	SDWS 18
Parameter Name	Ongoing water quality modifier
Abbreviation	$M_{q,y}$
Mentioned Value	1 (100% pass rate from 40 samples)
Verified Value	1
Verification Notes & Logical Confirmation	VERIFIED. Value is correct. The MR documents 40/40 samples passed E.Coli tests. The VVB on-site visit confirmed review of these 40 WQT results from the accredited lab.

Parameter Code	SDWS 20
Parameter Name	Water hygiene education campaigns
Abbreviation	-
Mentioned Value	1 (campaign conducted)
Verified Value	1 (at time of MR publication)
Verification Notes & Logical Confirmation	VERIFIED. Value is correct as of the MR date. The VVB raised CL-1 as this was non-compliant with the annual requirement. The PP conducted the second campaign during verification, and the VVB 'Closed' the finding.

Parameter Code	SDWS 22
Parameter Name	Proportion of project end-users that boil safe water
Abbreviation	$X_{cleanboil,y}$
Mentioned Value	0.002 (or 0.2%)
Verified Value	0.00191 (rounds to 0.002)
Verification Notes & Logical Confirmation	VERIFIED. Value is correct. The VVB raised CL-5 to query the calculation. The PP confirmed it was derived from the monitoring survey (6/157 respondents boil 5% of water). The VVB reviewed the survey, confirmed the logic, and 'Closed' the finding.

Parameter Code	SDWS 23
Parameter Name	Monitored quantity of safe water provided
Abbreviation	$Q_{m,y}$
Mentioned Value	35,905,000 Liters
Verified Value	35,905,000
Verification Notes & Logical Confirmation	VERIFIED. This is the final, certified quantity of water sold. The value is the sum of monthly metered data. It is explicitly certified in the VVB's final report and is conservative due to the exclusion of ~65-70% NRW.

Parameter Code	SDWS 25
Parameter Name	Number of individuals per premises
Abbreviation	$HN_{p,y}$
Mentioned Value	5.44 (West Yimbo); 5.29 (East Yimbo)
Verified Value	5.44 (West Yimbo);5.288 (East Yimbo)
Verification Notes & Logical Confirmation	VERIFIED. These are the monitored household sizes from the Nov 2024 survey. The VVB raised CAR-9 to ensure the MR cited this survey date correctly, and 'Closed' the finding, confirming acceptance of these monitored values.

Parameter Code	SDWS 26
Parameter Name	Number of premises type p served
Abbreviation	$HH_{p,y}$
Mentioned Value	4,315 (West Yimbo); 5,064 (East Yimbo)
Verified Value	5,064 (East Yimbo); 4,315 (West Yimbo)
Verification Notes & Logical Confirmation	VERIFIED. These are the baseline premise counts (SDWS 1 values, corrected for Nyagera closure) multiplied by the monitored usage rate (0.917).

Parameter Code	SDWS 27
Parameter Name	Days the project technology is operational
Abbreviation	$DO_{p,y}$
Mentioned Value	279 (Dry season); 340 (Wet season)
Verified Value	619, where 279 (Dry season); 340 (Wet season)
Verification Notes & Logical Confirmation	VERIFIED. This is the total number of days in the monitoring period (20/09/2023 to 31/05/2025).

Parameter Code	SDWS 34
Parameter Name	Quantity of (grid) electricity used by the project
Abbreviation	$EC_{p,y}$
Mentioned Value	8,545.22 kWh (from grid)
Verified Value	8,545.22 kWh
Verification Notes & Logical Confirmation	VERIFIED. Monitored grid consumption for 2025. This value was used to calculate Project Emissions (PE) and was accepted by the VVB in CL-3.

Parameter Code	SDWS 35
Parameter Name	Leakage emissions
Abbreviation	LE_y
Mentioned Value	0
Verified Value	0
Verification Notes & Logical Confirmation	VERIFIED. The MR applies a value of 0, stating the leakage risk is deemed low/neglected. This was accepted by the VVB.

3. SDG Parameters

Parameter Code	SDG 3
Parameter Name	Reduced incidents of water borne diseases
Abbreviation	-
Mentioned Value	97% (of households)
Verified Value	97%
Verification Notes & Logical Confirmation	VERIFIED. Monitored value from the "monitoring survey on 27-28 November 2024".

Parameter Code	SDG 5
Parameter Name	Perception of time savings
Abbreviation	-
Mentioned Value	99% (of households)
Verified Value	99%
Verification Notes & Logical Confirmation	VERIFIED. This is the final monitored value as certified in the MR and VVB's final report.

Parameter Code	SDG 7
Parameter Name	Total electricity produced: Renewable
Abbreviation	RE
Mentioned Value	87,110 kWh
Verified Value	87,110 kWh
Verification Notes & Logical Confirmation	VERIFIED. This is the final monitored value for the period, as certified in the MR and VVB's final report.

Parameter Code	SDG 8
Parameter Name	Jobs created
Abbreviation	-
Mentioned Value	23
Verified Value	23
Verification Notes & Logical Confirmation	VERIFIED. This is the final monitored value for the period, as certified in the MR and VVB's final report.

Parameter Code	SDG 15
Parameter Name	Amount of fuelwood saved
Abbreviation	-
Mentioned Value	4,100.7 tonnes (Calculated value)
Verified Value	4,100.7 tonnes
Verification Notes & Logical Confirmation	VERIFIED. This is the calculated value for the monitoring period based on the amount of water sold.

4. Safeguarding Principles Parameters

Parameter Code	Safeguard 9.5
Parameter Name	Transfer of chlorine
Abbreviation	-
Mentioned Value	No leakage incidents declared
Verified Value	Compliance Confirmed
Verification Notes & Logical Confirmation	VERIFIED. This is a compliance parameter. The VVB accepted the PP's declaration of no leakage and 'Closed' finding CL-2.

Appendix 6. Safeguarding Principles and Risk Assessment

The VVB has reviewed the Project Participant's (PP) "Safeguarding Principles Assessment" (PDD, Appendix 1) and confirms the PP's conclusions. The project is found to be in full compliance with all safeguarding principles, with the one identified potential risk (Principle 9.5) being correctly identified, monitored, and mitigated.

Principle / Question	PP's Answer	VVB Justification and Confirmation of Assessment
Principle 1: Human Rights	No	The VVB confirms this assessment. The project strengthens human rights by providing access to clean water, which is a fundamental right (Kenyan Constitution, Art. 43d). The stakeholder consultation and kiosk-based distribution model are non-discriminatory and ensure access for all community members.
Principle 2: Gender Equality	No	The VVB confirms this assessment. The project has a significant positive impact on gender equality. As evidenced by the MR (SDG 5), 99% of users perceive time savings. This directly reduces the burden on women and girls, who are traditionally responsible for the high-risk and time-intensive tasks of firewood collection and water boiling.
Principle 3: Community Health, Safety & Working Conditions	No	The VVB confirms this assessment. The project's primary objective is to improve community health. This is verified by the MR (SDG 3), where 97% of users report a reduction in water-borne diseases. The MR (SDG 8) also confirms the creation of 23 permanent jobs, and the VVB's site visit confirmed safe working practices for project staff.
Principle 4.1: Cultural Heritage	No	The VVB confirms this assessment. The project's activities (rehabilitation of existing tanks, burial of pipelines, and kiosk installation) are confined to existing infrastructure and public land within community settlements. The VVB's review of kiosk coordinates and site visit confirms no proximity to or impact on any sites of cultural, historical, or religious value.
Principle 4.2: Forced Eviction	No	The VVB confirms this assessment. The project is based on the rehabilitation of the existing, non-operational PENWA system and the placement of water kiosks in publicly agreed-upon locations. No new land acquisition, displacement, or involuntary resettlement of persons or economic activities was required.
Principle 4.3: Land Tenure	No	The VVB confirms this assessment. The project's legal right to operate is secured through Memorandums of Understanding (MOUs) with the Siaya County administration and PENWA (the CBO owner of the original infrastructure). The VVB has reviewed these agreements and confirms there are no land tenure disputes.
Principle 4.4: Indigenous Peoples	No	The VVB confirms this assessment. The project beneficiaries in Siaya County are primarily members of the Luo community, who are the majority group in this region, not a marginalized indigenous population as defined by the standard. All stakeholder consultations were inclusive and held in the appropriate local language.
Principle 5: Corruption	No	The VVB confirms this assessment. The project's design actively mitigates corruption risks. The use of LORENTZ smartTAP technology, where users pre-pay for water via secure tags or mobile money, removes cash handling at the point of sale and ensures a transparent, auditable, and fair revenue collection system.
Principle 6.1: Labour Rights	No	The VVB confirms this assessment. The MR (SDG 8) verifies the creation of 23 permanent jobs. The VVB's review of sample payroll data (as referenced in MR Section D.2) confirms compliance with Kenyan labour laws regarding fair wages, hours, and safe working conditions.

Principle 6.2: Negative Economic Consequences	No	The VVB confirms this assessment. The project provides a net positive economic impact by offering affordable, safe water. This saves households' expenditure on medical treatment for water-borne diseases and fuel (firewood/charcoal) for boiling, while also saving time (SDG 5) that can be reallocated to productive economic or educational activities.
Principle 7.1: Emissions	No	The VVB confirms this assessment. The project's core purpose is GHG emission reduction. The project is powered by a 44 kW solar PV system (MR, SDG 7), a renewable source. The minimal grid electricity used for backup (19 tCO2e) is negligible compared to the baseline emissions (8,315 tCO2e) avoided during this MP.
Principle 7.2: Energy Supply	No	The VVB confirms this assessment. The project is a net producer of clean energy, adding 87,110 kWh of solar power to the local system. It does not compete for or deplete scarce local energy resources; on the contrary, it reduces the unsustainable depletion of local biomass (firewood).
Princ-iple 8.1: Water Patterns/Flows	No	The VVB confirms this assessment. The project's water source is Lake Victoria, the largest lake in Africa. The abstraction volume (116,817 m3 pumped in this MP) is negligible in the context of this massive water body and has no impact on its water levels, natural patterns, or downstream users. The PP holds the necessary abstraction permits from the Water Resources Authority (WRA).
Principle 8.2: Erosion	No	The VVB confirms this assessment. Civil works were limited to pipeline burial and kiosk installation. The VVB's site visit confirmed these areas are stable and pose no erosion risk. By reducing deforestation (MR, SDG 15, 4,100 tonnes of firewood saved), the project provides a long-term positive impact by preventing erosion.
Principle 9.5: Hazardous & Non-hazardous Waste	Potentially	The VVB confirms this as the only relevant potential risk and confirms it is fully mitigated. The project uses granular chlorine (Dayliff Chlorine 65) for disinfection. The MR (Section F) and the VVB's site visit confirm that this material is stored safely, staff are trained in handling, and the automated Dosatron D30WL dispensing system prevents leaks or spills.
Principle 9.10: High Conservation Value (HCV) Areas	No	The VVB confirms this assessment. The project is situated in existing community settlements, not in or adjacent to an HCV. By providing an alternative to firewood, the project reduces pressure on surrounding terrestrial ecosystems and provides a co-benefit by protecting local biodiversity from deforestation.

Table 10 VVB Assessment of Safeguarding Principles.