

TEMPLATE

MONITORING REPORT

PUBLICATION DATE **14.10.2020**

VERSION **v. 1.1**

RELATED SUPPORT - **TEMPLATE GUIDE Monitoring Report v. 1.1**

This document contains the following Sections

Key Project Information

A - Description of project

B - Implementation of project

C - Description of monitoring system applied by the project

D - Data and parameters

E - Calculation of SDG Impacts

F - Safeguards Reporting

G - Stakeholder inputs and legal disputes

KEY PROJECT INFORMATION

Programme of Activity Information – (delete below table if N/A)

GS ID of Programme	GS1247
Title of Programme	GS1247 Improved Kitchen Regimes Multi-Country PoA
Version of POA-DD applicable to this monitoring report	GS1247 IKR Micro PoA-DD CP2 v14
Name and GS ID of fully Validated CPA/VPAs (i.e. non compliance check)	GS1247 VPA 266 - Burkina Faso Safe Water GS11046 GS1247 VPA 267 - Burkina Faso Safe Water GS11047 GS1247 VPA 268 - Burkina Faso Safe Water GS11048 GS1247 VPA 269 - Burkina Faso Safe Water GS11049

Key Project Information

GS ID (s) of Project (s)	GS11046 GS11047 GS11048 GS11049
Title of the project (s) covered by monitoring report	GS1247 VPA 266 - Burkina Faso Safe Water GS11046 GS1247 VPA 267 - Burkina Faso Safe Water GS11047 GS1247 VPA 268 - Burkina Faso Safe Water GS11048 GS1247 VPA 269 - Burkina Faso Safe Water GS11049
Version number of the PDD/VPA-DD (s) applicable to this monitoring report	4
Version number of the monitoring report	7
Completion date of the monitoring report	08/05/2024

Date of project design certification	09/08/2021
Date of Last Annual Report	21/12/2023
Monitoring period number	1
Duration of this monitoring period	GS11046: 24/02/2022 to 23/02/2023 GS11047: 22/06/2022 to 23/02/2023 GS11048: 18/11/2022 to 23/02/2023 GS11049: 17/12/2022 to 23/02/2023
Project Representative	CO2 Balance UK Limited
Host Country	Burkina Faso
Activity Requirements applied	☒ Community Services Activities ☐ Renewable Energy Activities ☐ Land Use and Forestry Activities/Risks & Capacities ☐ N/A
Methodology (ies) applied and version number	TPDDTEC v.3.1
Product Requirements applied	☒ GHG Emissions Reduction & Sequestration ☐ Renewable Energy Label ☐ N/A

Table 1 - Sustainable Development Contributions Achieved

Achievements per VPA

Sustainable Development Goals Targeted	SDG Impact	Amount Achieved	Units/ Products
13 Climate Action	Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities. Calculated	GS11046 – 5,273 tCO ₂ e GS11047 – 3,890 tCO ₂ e GS11048 – 1,600 tCO ₂ e GS11049 – 827 tCO ₂ e Emissions reductions for the monitoring period	tCO ₂ e

	through total project emissions reductions		
3 Good Health and Well-Being	By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.	GS11046 – 4,773 GS11047 – 5,190 GS11048 – 6,931 GS11049 – 7,288 Number of additional people consuming safe water	people
5 Gender Equality	Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate. This is calculated through the amount of time saved collecting water and firewood per trip	1.71 Total reduction in time spent collecting water (across all VPAs)	hours
6 Clean Water and Sanitation	By 2030, achieve universal and equitable access to safe and affordable drinking water for all. This is calculated through the additional number of persons having access to safe water	GS11046 – 3,527 GS11047 – 3,835 GS11048 – 5,121 GS11049 – 5,385 Number of additional people with access to safe water	people

Table 2 – Product Vintages

		Amount Achieved
Start Dates	End Dates	VERs
24/02/2022	31/12/2022	GS11046 – 4,420 GS11047 – 2,949 GS11048 – 566 GS11049 – 26
01/01/2023	23/02/2023	GS11046 – 853 GS11047 – 941 GS11048 – 1,034 GS11049 – 801

SECTION A. DESCRIPTION OF PROJECT

A.1. General description of project

The Micro-Scale VPA Burkina Faso Safe Water project is eligible under the Gold Standard methodology Technologies and Practices to Displace Decentralized Thermal Energy Consumption Version 3.1. By providing safe water, the project will ensure that households consume less firewood during the process of water purification and as a result there shall be a reduction of carbon dioxide emissions from the combustion process.

Gourzy, in the Nord Region of Burkina Faso, is a largely rural district in which local people typically use wood fuel on inefficient three stone fires to boil their drinking water for purification. This process results in the release of greenhouse gas emissions from the combustion of wood - this can be avoided if a technology that does not require fuel (wood or fossil) supplies clean water desired by households.

Many existing safe water sources in Burkina Faso have fallen into disrepair because maintenance programmes have been poorly managed or proven too expensive. In this project, NGO Transform Burkina, will work with British company CO2balance to rehabilitate and maintain water points so that they deliver clean, safe water. The project will ensure that the quality of the water delivered by the safe water sources is fit for human consumption for the entire length of the project, which will be a minimum of five years and can be revalidated twice to run up to fifteen years total in length.

In agreement with TRANSFORM BURKINA and the communities, CO2balance have legal ownership of the carbon credits that are produced as a result of the project. At the time of rehabilitation of each borehole, a Carbon Transfer Form (CTF) is signed by a representative of the village Water Resource Committee, signing over the rights to the carbon credits to CO2balance. Both Transform Burkina and water point users understand that CO2balance have committed to providing them with a rehabilitated and fully maintained borehole on the basis that the emission reductions will be transferred to CO2balance.

Water points are managed by communities, who are recognised as the main users of the water points in the project. In line with Section A.2.1 of the PoA, Transform Burkina created a mechanism which has been incorporated into the project design, which encourages communities to contribute funds for the use of the borehole to promote community ownership of the borehole and long-term sustainability of the project.

The amount contributed is determined by the Water Resource Committees on an individual borehole basis and is dependent on the financial capacity of the community to contribute, with individuals encouraged to only contribute within their means. The contributions are paid to the communities' Water Resource Committees, to form a fund that can be used to pay for minor maintenance and cleaning equipment to maintain the area around the borehole, promoting independence in conducting minor maintenance. This mechanism encourages the empowerment of the communities, as it prepares the communities with a self-sufficient, sustainable model to maintain their safe water source without solely relying on CO2balance throughout the lifetime of the project and after the project is complete.

The number of water points per VPA will be limited by the amount of pure water supplied by each unit. Based on ex-ante calculations, the maximum number of water points that can be rehabilitated in one VPA to achieve 10,000 tCO₂e is approximately 24. Following the collection of the user numbers of each borehole after their rehabilitation, these numbers were much lower than estimated. Therefore, the maximum number of water points that can be rehabilitated in one VPA to achieve 10,000 tCO₂e is 26.

The project is funded by marketing the carbon credits from the wood savings to investors, so water point owners must agree to transfer the emissions reductions over to CO2balance in return for them supplying the work to renovate the water points. This project will be developed under the Gold Standard carbon credit body, which in addition to checking that the carbon credits from this project are real, also measures local social, environmental, and economic impact.

Roles and Responsibilities

CO2balance:

- Huw Jones, Financial Director
- James Walker, Operations Director
- Amie, Senior Project Manager
- Maria Jimenez, Project Manager – leads on Gold Standard reviews.
- Megan Edwards, Carbon Project Officer

Transform Burkina:

- Jonny Wooldridge, UK Executive Officer

In country staff

- Philippe Ouedraogo (Chief Executive)
- Daniel Ouedrago (Operations Manager)
- Martin Yameogo (Finance Manager)
- Donald Daboue (Project Manager and Field Officer)
- Ismael Illa (Field Officer)
- Germain Bomogo (Field Officer)
- Stephane Ouedraogo (Field Officer)

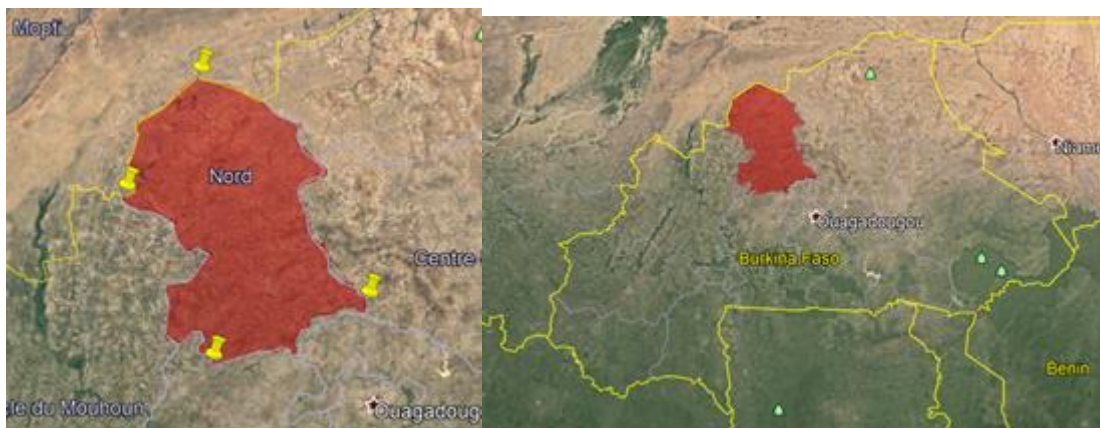
The Transform Burkina field officers are responsible for the monitoring activities, including WASH trainings, follow-up visits, chlorinations, ongoing maintenance and minor repairs.

The field team also accompanies external contributors, including water quality lab officers who conduct the water quality tests and certified borehole technicians for technical assessments, rehabilitations and major repairs.

A.2. Location of project

Below are details of the physical location to allow unique identification of the project. The location of the project activity is within the administrative boundaries of Nord Region in Northern Burkina Faso. Nord Region is marked in red on the Google Earth images. The target area and the fuel collection area are defined as being contained within the project boundary, with the outer limits of the project boundary being clearly defined below. As the majority of beneficiaries collect their wood fuel locally in

close proximity to their homesteads, the wood fuel collection area and target area are considered the same.



To avoid double-counting, each borehole will be assigned a unique ID upon rehabilitation consisting of both a location reference and a sequential number (e.g., location reference (e.g., NOR) and a sequential number (starting from 01). Each borehole will be labelled with its unique ID in time for verification. The location of each borehole will be recorded using GPS coordinates and this will act as a further mechanism to maintain the unique identification of the boreholes. The installation date and a photograph of every borehole are documented in the project monitoring records.

Project Area Extremities		
	Latitude	Longitude
North	14.172016	2.282039
South	12.561283	1.321024
East	12.37104	2.284233
West	13.372812	2.565146

GS ID	Borehole ID	Neighbourhood	Latitude	Longitude
GS11046	N01	Willidgui	13.11489	-2.35018
	N02	Natinga	13.12007	-2.36232
	N03	Koudri	13.14936	-2.40322
	N04	Bouli	13.23144	-2.38201
	N05	Zindzougou	13.2384236	-2.2792476
	N06	Bagandin	13.2442926	-2.2503958
	N07	Ting sooba	13.2421628	-2.2387787
	N08	Silmissi	13.2216018	-2.4521105
	N09	Korocin	13.2108054	-2.2460217
	N10	Tiyandé	13.2144663	-2.2664332
	N11	Moimbin	13.2381999	-2.2819691
	N12	Konobito	13.2450772	-2.2843097
	N13	Tensobingo	13.2313306	-2.3070946
	N14	Yipaldemba	13.2781937	-2.3640154
	N15	Noodin	13.1509261	-2.3692868
	N16	Souka	13.1476144	-2.3696977
	N17	Bouli 2	13.1593602	-2.3442593
	N18	Pousgin	13.2643279	-2.3663746
	N19	Yimassum	13.2691757	-2.3354019
	N20	Bongin	13.2718121	-2.3314949
	N21	Yikodé	13.2607049	-2.3316187
	N22	Tamare	13.3032341	-2.3704649
	N23	Rongin	13.3248123	-2.3869517
	N24	Bangrin	13.3003118	-2.3570253
	N25	Sandpalogo	13.2400898	-2.2342625
	N26	Yitaore	13.2861411	-2.3646989

GS ID	Borehole ID	Neighbourhood	Latitude	Longitude
GS11047	M01	Tengin	13.1067292	-2.3468012
	M02	Bangin-tinga	13.1087500	-2.3453842
	M03	Nakomgo	13.1738336	-2.2084173
	M04	Tingsob yiri	13.1747371	-2.2107791
	M05	Samsoom Yiri	13.2105884	-2.2653219
	M06	Toodin	13.2994761	-2.2364317
	M07	Soulyalé	13.2228489	-2.2788382
	M08	Nayiri	13.2763403	-2.2079829
	M09	Lebyiiga	13.2492070	-2.2012115
	M10	Nayiri-Bingo	13.0308443	-2.5593833
	M11	Todin	13.0307124	-2.5544752
	M12	Yaogin	13.0826897	-2.4473310
	M13	Tinsobingo	13.0372957	-2.6202469
	M14	Nabinsi	13.0245955	-2.5784080
	M15	Kiebla	12.9951692	-2.5910657
	M16	Nabissi	12.9437881	-2.5190455
	M17	Gapare	13.0523850	-2.4896059
	M18	Lagdogo	13.0435111	-2.4940346
	M19	Silmissi	12.9376090	-2.5228472
	M20	Nakomgo	12.9726511	-2.4533483
	M21	Bargo	13.2592832	-2.2801672
	M22	Kelecenaaba	13.2530554	-2.2615600
	M23	Nakomgo	13.2003336	-2.1874965
	M24	Rampounougou	13.1888157	-2.1875043
	M25	Ting-naabyiri	13.2085025	-2.2249845
	M26	Guid-Yiri	13.2334014	-2.4241282

GS ID	Borehole ID	Neighbourhood	Latitude	Longitude
GS11048	L01	Naayiri	13.2584934	-2.3295218
	L02	Bougnakoudogo	13.3612294	-2.3909342
	L03	Sambgin	13.3264742	-2.3842202
	L04	Sanbraogo	13.2707481	-2.3723816
	L05	Bahongin	13.2491948	-2.3711735
	L06	Nakomgo	13.1096535	-2.3942181
	L07	Naabayiri	13.2309481	-2.2236123
	L08	Tooghin	13.3400735	-2.3264106
	L09	Nakomgo	13.1423118	-2.4065179
	L10	Yiipala	13.1399748	-2.4081524
	L11	Zomwefo	13.1803048	-2.2964069
	L12	Yikodin	13.2029830	-2.3051877
	L13	Naabyiri	13.2465503	-2.2760829
	L14	Bingo	13.1628588	-2.2383947
	L15	Naayiri	13.1417460	-2.2871797
	L16	Salam-maure yiri	13.1755762	-2.4254841
	L17	Perkouma	13.1713970	-2.4323357
	L18	Ting sobingo	13.1701126	-2.4344773
	L19	Balingo	13.2706380	-2.1926495
	L20	Toogin	13.2717126	-2.2600393
	L21	Maringo 2	13.2738562	-2.2794929
	L22	Secteur 2	13.2145211	-2.3552094
	L23	Login	13.2071558	-2.3407107
	L24	Aliou yiri	13.2085482	-2.3359959
	L25	Rongin	13.2073754	-2.3308094
	L26	Darbarké	13.2045033	-2.3321180

GS ID	Borehole ID	Neighbourhood	Latitude	Longitude
GS11049	K01	Silmimossin	13.1726287	-2.2048871
	K02	Sambin	13.1348232	-2.2821489
	K03	Silmissi	13.1484780	-2.2832078
	K04	Togin	13.1433452	-2.3172132
	K05	Zitoesse	13.0781651	-2.3795930
	K06	Lagdogo	13.0817626	-2.3812933
	K07	Bongin	13.3379283	-2.3332182
	K08	Sankango	13.3339123	-2.3269511
	K09	Yitaore	13.3203719	-2.3294469
	K10	Kodobara	13.2625860	-2.3783933
	K11	Lagdogo	13.1150152	-2.3982648
	K12	Zingzougou	13.1096997	-2.4015095
	K13	Sogdin	13.1135833	-2.3365112
	K14	Loginsandogo	13.2132185	-2.3508918
	K15	Tingondin	13.3610971	-2.2348625
	K16	Naayiri	13.3654110	-2.2307531
	K17	Yikiemdé	13.3306488	-2.2477841
	K18	Bouli	13.2940379	-2.2971406
	K19	Tingondin	13.2564901	-2.2923536
	K20	Kaponsso	13.2313929	-2.3170690
	K21	Tengsin	13.1475460	-2.3116230
	K22	Tingondin	13.1419282	-2.2626948
	K23	Yikodin	13.2291007	-2.3748556
	K24	Tengin	13.2414449	-2.3977375
	K25	Toépenedo	13.2536674	-2.4025953
	K26	Sambin	13.1783499	-2.2172275

A.3. Reference of applied methodology

Gold Standard Methodology: Technologies and Practices to Displace Decentralized Thermal Energy Consumption Version 3.1

A.4. Crediting period of project

The day after the date of rehabilitation has been used as the borehole operation start date. It was conservatively assumed that the first day of crediting is not counted and the crediting period begins the following day after the borehole is rehabilitated. The crediting periods began:

VPA 266/GS 11046: 24/02/2022 – 23/02/2027

VPA 267/ GS11047: 22/06/2022 – 22/06/2027

VPA 268/ GS11048: 18/11/2022 – 18/11/2027

VPA 269/ GS11049: 17/12/2022 – 17/12/2027

The length of the crediting period is 5 years as per the approved PDD.

SECTION B. IMPLEMENTATION OF PROJECT

B.1. Description of implemented project

CO2balance and TRANSFORM BURKINA have rehabilitated 104 boreholes as part of the project and are in the process of rehabilitating 520 boreholes.

All 104 boreholes were technically assessed to determine the parts and workmanship required for the borehole to be in good working order and deliver clean water. Rehabilitations were carried out from 23/02/2022 and are still ongoing. These involved certified borehole technicians doing an initial visit to technically assess each borehole, listing the materials and workmanship required to make the borehole function. After acquiring the materials, the technicians revisit the boreholes to conduct the rehabilitation, with the communities Water Resource Committee (or representative) and TRANSFORM BURKINA field staff present. The rehabilitation involves taking apart the boreholes and replacing the items that were broken. Once reassembled, the technicians begin pumping water from the borehole to ensure it is functioning well. Following the successful rehabilitation of each borehole and agreement from the technician and Water Resource Committee member, a Carbon Transfer Form was signed to certify the repair.

Maintenance

A comprehensive maintenance programme is required in order to guarantee a consistent supply of safe water from the water points that have been installed and rehabilitated. After the rehabilitation of the water points, a Water Resource Committee is established in the village to manage the borehole. They are responsible for keeping the logbook updated, the borehole clean, ensuring WASH trainings are passed on and that the borehole area is kept clean and well maintained.

Some water points contain moving parts such as chains and bearings which require an annual service and or replacement to prevent against failure. In addition, nuts and bolts commonly work themselves free and require regular replacement – these are checked and generally replaced on an annual basis. Other, more major parts have a longer lifespan and require a less frequent replacement. The planned maintenance programme is carried out by local technicians under the supervision of a senior technician and will endure the activity of the project.

There are two different ways that maintenance is conducted to ensure the supply of safe water; regular and reactive maintenance. Regular follow-up visits ensure there is ongoing maintenance of the boreholes. The field team bring toolkits and spare parts when they do these visits, to enable them to conduct any minor or preventative repairs. The team also check the logbooks, to see if the Committee members have reported any issues since the last visit.

It is possible that borehole pumps can break down unexpectedly. For reactive maintenance, every community with a borehole will have the contact details (phone number and email) of the TRANSFORM BURKINA field team so they can contact them to report a problem with the project in general or their borehole as soon as possible. The in-country team will engage appropriate action to solve the problem, either by visiting the community/boreholes themselves to undertake minor maintenance or for a more complex problem, engaging a local technician to visit and assess the borehole.

Upon successful completion of a repair, a new Repair Confirmation Form (RCF) is filled out that indicates when the borehole returned to working order. The total number of days the borehole remained out of service will be recorded and communicated to CO2balance UK Ltd. The number of days the borehole remained out of service will be removed from the emission reduction calculations.

Technical Specifications

An example of the borehole technology in Burkina Faso that has been renovated as part of the project is the Afridev Hand Pumps as shown below. Other hand pump models that utilize the same basic design may also be included in the project. Other hand pump models include but are not limited to the India Mark II and India Mark III. The project is not limited to any particular hand pump, boreholes will be rehabilitated according to local needs.

1) Afridev Hand Pump

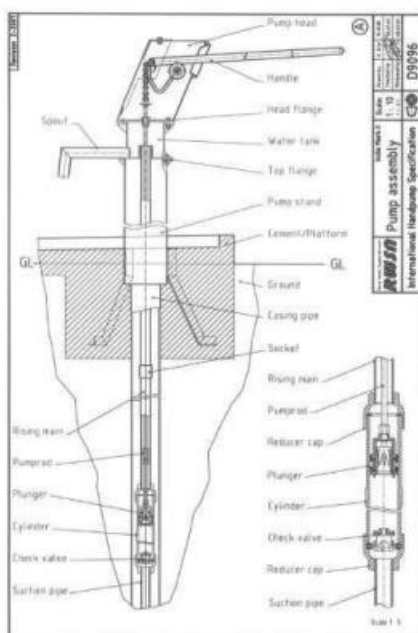
The Afridev Hand Pump is a public domain pump that is reliable and popular with the communities. It is designed for heavy-duty use, serving communities of up to 300 persons.



Technical Specifications:

	Afridev
Depths to be used (m)	10-45
Cylinder Diameter (mm)	50
Maximum Stroke (mm)	225
Approx. discharge at about 75 watt input (m3/h)	At 10m head 1.4
	At 15 m head 1.1
	At 20m head 0.9
	At 30m head 0.7
Pumping Lift (m)	10-50
Water Consumption (litres per capita)	15-20
Source	https://rural-water-supply.net/en/implementation/public-domain-handpumps/afridev

2) The India Mark II Hand Pump is a public domain pump that is reliable and popular with the communities. It is designed for heavy-duty use, serving communities of 300 persons.



	India Mark II
Cylinder Diameter (mm)	63.5
Maximum Stroke (mm)	125
Approx. discharge at about 75 watt input (m3/h)	at 10 m head 1.8
	at 15 m head 1.3
	at 20 m head 1.0
	At 25 m head 0.9
	at 30 m head 0.8
Pumping Lift (m)	10-50

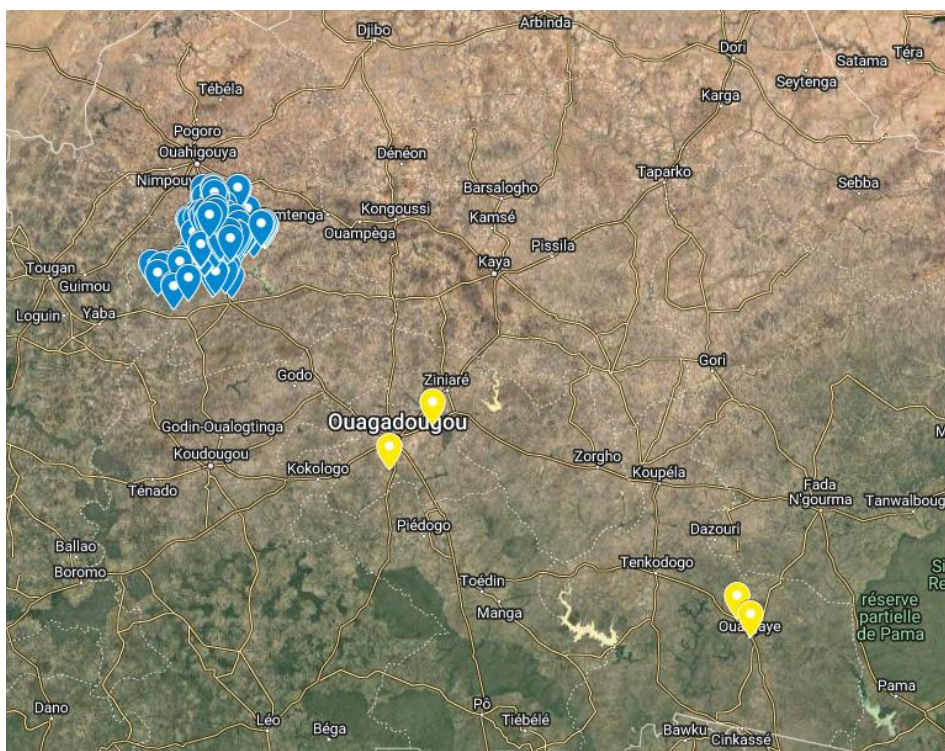
B.1.1 Forward Action Requests

Forward Action Request # 1: The PP must prove that within the project area, there is not any other boreholes or water supply systems from other carbon or non-carbon projects, including boreholes that were installed by the government or other organizations.

In the communities where the rehabilitations have been carried out, PP confirms that no other boreholes/water points are present. Feasibility surveys and technical assessments are carried out prior to borehole rehabilitation, locations are carefully chosen in communication with communities and based on need. In Question 7 of the Usage Survey, respondents are required to provide the name of all the boreholes they use, if any. The results from this survey indicated that no other water points were used by community members.

PP also researched other projects in Burkina Faso on the registries for Gold Standard, Verra and CDM, to see if there were any other water projects which coincided with our project area. This is evidenced in the document titled "Registry Research" which has been uploaded at Verification.

As can be seen in this document, there is only one other water project in Burkina Faso on the Gold Standard registry. The details of this are contained in the table below. The project area does not overlap with ours (the map below highlights the distance between the two projects, with the yellow pins representing their project locations); the other project targets the urban/peri-urban population, which is different to our target population (rural communities) and it is a different technology which is not widely available or accessible in our project area.



GS10795: IMPLEMENTATION AND OPERATION OF WATER KIOSKS IN BURKINA FASO

Standard	<i>Gold Standard</i>
Project Developer	<i>atmosfair gGmbH</i>
Scale	<i>Micro</i>
Status	<i>Listed</i>
Project Type	<i>Solar powered water kiosks</i>
Project Area	<i>Dedougou, Ouargaye, Gampela, Dourtenga</i>
Methodology	<i>AMS-III.AV. Low greenhouse gas emitting water purification systems</i>
Crediting Period	<i>01/06/2023 - 31/05/2028</i>

Forward Action Request # 2: The PP shall demonstrate that before the project activities, the existing boreholes were completely abandoned and not operated.

In the technical assessments, PP checks eligibility criteria to identify if the borehole has been completely abandoned and not operated. For example, PP checks that the

borehole has been broken down for longer than 3 months, asks if any rehabilitation activities have been conducted and who is the current owner of the water point.

Forward Action Request # 3: The PP is requested to submit the CTF forms and evidence that the people who signed the CTF forms were authorized by the whole communities.

CTFs have been supplied by PP. By internal policy, CTFs are only signed by the head villagers or head water committee members who have the local authority on behalf of the whole community. Our field officers at Transform Burkina operates this way.

Forward Action Request # 4: The geographic location (the GPS location, exact location of project boreholes such as City/Town/Community etc.) with installation date and photos of boreholes shall be provided.

Geographic location (including Village name and GPS coordinates), rehabilitation date and photos of the boreholes can be found in Rehab Confirmation Forms submitted.

Forward Action Request # 5: PP is requested to provide copies of agreements/contracts for equipment purchasing, installation, etc. as evidence for the start date of the project activity. The PP is requested to clarify how the selected date has been determined as per the definition of start date under GS4GG Principles & Requirements.

The start date for each VPA was determined as the date of the first borehole within the VPA was fully rehabilitated plus one day to be conservative. This date is documented in the Rehab Confirmation Forms, which are signed and dated by the certified borehole technician who provided the operation services required for the rehabilitation. They also include evidence such as photos of boreholes.

Forward Action Request # 6: The project developer shall conduct the physical stakeholder consultation meetings and the Stakeholder Feedback Round (SFR) for Gold Standard project/POA/VPAs when the COVID-19 situation eases.

A physical stakeholder consultation meeting was held on 19/05/2022. SFR started 07/12/2022 and ended on 07/01/2023. The Stakeholder Consultation Report has been submitted to this verification review.

The physical LSC was not conducted prior to the start date of the project because of a lack of safety due to political instability and Covid-19 restrictions and safeguarding. This is detailed in the approved Deviation Request form uploaded at Verification.

Forward Action Request # 7: The PP must apply the latest version of fNRB UNFCCC tool for calculating the fNRB using the most recent official available data source.

A fNRB value of 90% has been calculated using latest version of the UNFCCC tool and the most recent official available data source which is <https://cdm.unfccc.int/DNA/fNRB/index.html>.

Forward Action Request # 8: The PP is requested to submit the original baseline survey form for reviewing.

The original baseline survey form has been provided.

Forward Action Request # 9: To ensure transparency of sampling process, the PP shall use the online number generator or other traceable techniques. The PP shall maintain the screenshots of random number generation/evidence for the random selection of households for monitoring surveys. All evidence shall be submitted together with the following request for issuances.

Details of how random sampling was conducted is detailed in Section D.4 of the Monitoring Report. The online resource Research Randomizer was used for the random selection of households for monitoring surveys. Evidence/screenshots have been provided.

Forward Action Request # 10: PD shall clarify if the national or the WHO standard shall be applied for WQT.

Burkina Faso national standards for drinking water have been applied for WQTs. PP has included the details of this in Section C of the Monitoring Report. Example of laboratory results for N17 attached including all national standards.

B.2. Post-Design Certification changes

B.2.1. Temporary deviations from the approved Monitoring & Reporting Plan, methodology or standardized baseline

The physical LSC was not conducted prior to the start date of the project (February 2022) because of a lack of safety due to political instability and Covid-19 restrictions and safeguarding. A deviation request was submitted and approved by Gold Standard, with the PP required to hold the physical LSC after the COVID situation eased in the host country. The physical LSC was held on 19/05/2022. The approved Deviation Request form has been uploaded at Verification.

B.2.2. Corrections

N/A

B.2.3. Changes to start date of crediting period

The start date of the crediting period was stated as 01/08/2021 in the VPA-DD, however this has changed due to the borehole rehabilitations starting at a later date. The crediting periods for each VPA are as follows:

VPA 266/GS 11046: 24/02/2022 – 23/02/2027

VPA 267/ GS11047: 22/06/2022 – 22/06/2027

VPA 268/ GS11048: 18/11/2022 – 18/11/2027

VPA 269/ GS11049: 17/12/2022 – 17/12/2027

B.2.4. Permanent changes from the Design Certified monitoring plan, applied methodology or applied standardized baseline

N/A

B.2.5. Changes to project design of approved project

N/A

SECTION C. DESCRIPTION OF MONITORING SYSTEM APPLIED BY THE PROJECT

All surveys are administered by trained CO2balance staff and the in-country partner NGO, TRANSFORM BURKINA, who are local to the area and conversant in the local dialects to ensure that the responses are consistent and not biased by any regional language barriers. Each participant is provided with a briefing on the purpose of the survey and is assured that no individual names are used in the analysis.

Most surveys are collected electronically, using the app KoboCollect. Field officers have Kobo accounts, from which they fill in the surveys in the field and then submit them directly to the CO2balance account. CO2balance then accesses the data in a spreadsheet format.

Some surveys are still conducted on paper, and then collated electronically in Excel spreadsheets and stored on a central server in an electronic format. These are then sent to the UK head office for data analysis. The documentation procedure that CO2balance has devised ensures a minimum chance of original data being lost – all original copies of our project documentation are retained in TRANSFORM BURKINA Burkina Faso office and are available scanned upon request of the UK team.

CO2balance has adopted the following mechanisms to ensure that the rehabilitated boreholes are in use:

- The Usage Survey - conducted annually for a sample of boreholes. This is used to calculate the usage rate which feeds into the Emission Reduction calculations.
- WASH training is conducted annually with Water Committee Members, which reinforces their role and emphasises the importance of good hygiene and keeping the borehole area well maintained.
- Photos are submitted to CO2balance during many activities. These are analysed for visual signs of use and serve as additional evidence.
- Regular maintenance (detailed description in Section B.1) ensures that the boreholes are functioning and in good working order at all times.

In accordance with the Gold Standard methodology “Technologies and Practices to Displace Decentralized Thermal Energy Consumption” (TPDDTEC), survey samples are randomly selected from the user record using a random sample group (RSG). A random number generator ranks the unique serial numbers of the boreholes in the project, generating the RSG which satisfies 90/30 precision. Each user in the RSG is assigned a unique random number from which survey participants are selected in accordance with the minimum sample size and confidence requirement for each survey. The RSG and survey participants are reselected for every monitoring period to ensure the selection remains random.

Below is a summary of the key information that has been collected and monitored as part of this project.

Borehole Database

The borehole installation/rehabilitation record includes the following information:

- Date of installation/rehabilitation
- Model of the borehole
- Quantity of boreholes rehabilitated
- The total number of people obtaining their water from each borehole
- Mode of use: commercial/domestic

The installation record is backed up electronically, with original documentation being stored in the appropriate office for the respective VPAs.

All data collected in relation to the project is held in the local office and/or on the Project Database for the entire life cycle of the project and a period of 2 years afterwards. The data may be archived during the project in order to maintain clarity and security.

Ongoing Monitoring Studies

The following ongoing monitoring studies were conducted; the results are given in the parameter boxes tables in Section D.

- **Water Quality Test (WQT):** The quality of the treated water will be assessed to ensure that it is fit for human consumption. It is assessed in accordance with Burkina Faso national standards for drinking water. The parameters used to assess the water quality will be in line with Burkina Faso National standards for potable water and all parameters will be shown to be within levels considered acceptable for domestic human consumption.
- **Leakage:** The potential sources of leakage will be investigated (LEp,y). If the assessment quantifies an increase in fuel consumption by the non-project households attributable to the project activity, then calculations will be adjusted to account for this. The potential sources of leakage will be investigated every two years in accordance with the applied methodology TPDDTEC v3.1. Leakage is either calculated as a quantitative emissions volume (tCO₂e) or as a percentage of total emission reductions. Leakage risks deemed very low can be ignored as long as the case for their insignificance is substantiated.
- **Annual WASH Training:** Hygiene training with the communities involved with the project is conducted on an annual basis following the rehabilitation of the borehole. The strategy for how the WASH trainings are undertaken may differ depending on local restrictions, situations, location of boreholes. The WASH trainings may be conducted:
 1. With individual communities
 2. In a communal location whereby a number of community members from different communities attend.

The approach which is deemed most appropriate and efficient by the in-country partner is used, and the WASH Committee Members from each borehole will be engaged and involved in the training.

At each the following topics will be covered as a minimum:

1. Background of WASH (cover all aspect involved)
2. Good WASH practices to adopt and how to promote good hygiene (demonstrations & training)
3. Cleanliness around Borehole
4. Direct WASH engagement and brief Minor Maintenance Training with WASH Committee Members

- **Project Technology Days ($N_{p,y}$):** Number of persons consuming water supplied by project scenario p through year y . Sum of the total number of people using each borehole in the project multiplied by the number of days crediting each borehole earns in this monitoring period. The total number of households using each borehole will be determined through information supplied by our NGO partner. Using this method, the total number of people using each borehole will be known and hence a figure for person days can be calculated. All monitoring tasks will be selected at random.

Individual participants were selected from the borehole user database using the random sampling process outlined in the monitoring plan. Sample sizes are in line with the Gold Standard requirements.

- **Water Consumption Field Test (WCFT):** The WCFT is used to determine 3 key parameters: $Q_{p,y}$ – quantity of safe water in litres supplied in the project scenario using the clean water supply technology; $Q_{p,rawboil,y}$ – quantity of raw or unsafe water that is still boiled after installation of the water supply technology; $Q_{p,cleanboil,y}$ – quantity of safe water boiled in the project scenario after installation of the water supply technology.

WCFT is completed biennially, prior to first verification and then every other year subsequently. The measurement method used is similar to the Kitchen Performance Test in which the volume of water consumed in each household is averaged over 3 days (using digital scales). The WCFT is carried out by staff trained by co2balance to meet the specific requirements of the methodology. All data presented in Excel is subject to checking and cross-referencing of a sample of the raw data by co2balance UK Ltd.

- **Usage Survey:** Usage Survey is used to determine the $U_{p,y}$ (usage rate in the project scenario p through year y) parameter.

As all boreholes were rehabilitated within 1 year of the start of the crediting period and are expected to last the lifetime of the project, minimum samples of 30 for different aged technologies are not necessary. The annual usage survey is conducted using a minimum sample size of 100 for each technology.

- **Project Survey:** Conducted annually to survey end users currently using project technologies to explore changes in project scenario over time. The annual project survey is conducted using a minimum sample size of 100 for each technology.

Data collected during the project surveys explores the following characteristics:

- General information – Name, address, telephone number etc
- Household socio-demographic information
- Water use and purification characteristics
- Sources and availability of fuel
- Time use and time saved information

- **Annual Monitoring:** Usage and Project Surveys and WCFT

In the case of MP1, as per 90/30 precision and random sample group, 8 of the 26 boreholes were randomly selected for inclusion in the annual monitoring surveys. While there were 52 rehabbed boreholes at the time of annual monitoring, 26 of them had to be left out of the sampling as per their rehab date. The methodology states the technology must have been in use for a minimum time of 0.5 years, which was not the case for 26 boreholes.

Selected boreholes for annual monitoring:

BH ID
N21
N18
N03
N04
N01
N02
N20
N07

The user lists of these boreholes were combined into a separate list and assigned a random number. A random sample (in line with 90/30) precision was conducted on

the list. The first 109 households selected underwent the Usage Survey and Project Survey (23 buffer households were selected should any of the first 109 households be unable to be surveyed).

The usage and project surveys were conducted 01/12/2022- 14/12/2022.

The WCFT is a survey conducted bi-annually. It was last conducted between 29/11/2022- 02/12/2022, therefore it will next be conducted in 2024.

Cross Sampling

The project proponent has elected to cross-sample boreholes across all its homogenous VPAs located within the project area (VPA 266, 267, 268 and 269). Homogenous VPAs are defined as those that share a common baseline. Boreholes considered different technologies are cross-sampled and monitored separately. The samples for the survey listed below are randomly selected from the borehole information databases in line with the minimum sample size requirements as defined by the methodology. Cross-sampling will be applied to the following surveys;

- Project Surveys- Completed annually
- Usage Surveys- Completed annually
- Water Consumption Field Tests - Completed every two years.

It was last conducted between 01/12/2022- 14/12/2022, therefore it will next be conducted in 2024.

Surveys are conducted through the use of a Random Sample Group (RSG). The size of the sample group is selected so the number of borehole to be sampled satisfies the 90/30 precision rule. A random number generator ranks the unique serial numbers of the boreholes in the project, generating a RSG. The sample group is reselected for every monitoring period to ensure the selection remains random. In this Monitoring Period, the minimum recommended sample size of the RSG to meet 90/30 precision was 8 boreholes. The individual participants surveyed from the RSG are selected at random from the project database using the same random number generator process, in accordance with the minimum sample size requirement for each survey, detailed in section D.4.

SECTION D. DATA AND PARAMETERS

D.1. Data and parameters fixed ex ante or at renewal of crediting period

SDG13

Data/parameter	EF _{b,co2}
Unit	tCO ₂ /TJ
Description	CO ₂ emission factor arising from use of wood fuel in baseline scenario
Source of data	Calculated from IPCC defaults; Volume 2: 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Chapter 2, Table 2.5
Value(s) applied	112 – see GS Methodology
Choice of data or Measurement methods and procedures	Deemed valid by Methodology
Purpose of data	Calculation of baseline emissions
Additional comment	

Data/parameter	EF _{p,co2}
Unit	tCO ₂ /TJ
Description	CO ₂ emission factor arising from use of wood fuel in project scenario
Source of data	Volume 2: 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Chapter 2, Table 2.5
Value(s) applied	112
Choice of data or Measurement methods and procedures	Deemed valid by Methodology
Purpose of data	Calculation of emission reductions
Additional comment	

Data/parameter	EF _{b,non co2}
Unit	tCO _{2e} /TJ
Description	Non-CO ₂ (CH ₄ and N ₂ O) emission factor arising from use of wood fuel in baseline scenario
Source of data	Default emissions factor: https://www.ipcc-nggip.iges.or.jp/public/gp/bgp/2_2_Non-CO2_Stationary_Combustion.pdf

	1. https://ghgprotocol.org/sites/default/files/ghgp/Global-Warming-Potential-Values%20%28Feb%2016%202016%29_1.pdf 2. Global Warming Potential: http://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html#table-2-14																				
Value(s) applied	9.46																				
Choice of data or Measurement methods and procedures	Deemed valid by Methodology																				
	<table><tr><th>Gas</th><th>Default Emissions factor (kg_gas/TJ_{NCV})</th><th>GWP of gas</th><th>Default Emissions factor (kg_CO₂e/TJ_{NCV})</th><th>Default Emissions factor (t_CO₂e/TJ_{NCV})</th></tr><tr><td>CH₄</td><td>300</td><td>28</td><td>8400</td><td>8.4000</td></tr><tr><td>N₂O</td><td>4</td><td>265</td><td>1,060</td><td>1.060</td></tr><tr><td></td><td></td><td></td><td>Total</td><td>9.46</td></tr></table>	Gas	Default Emissions factor (kg_gas/TJ _{NCV})	GWP of gas	Default Emissions factor (kg_CO ₂ e/TJ _{NCV})	Default Emissions factor (t_CO ₂ e/TJ _{NCV})	CH ₄	300	28	8400	8.4000	N ₂ O	4	265	1,060	1.060				Total	9.46
Gas	Default Emissions factor (kg_gas/TJ _{NCV})	GWP of gas	Default Emissions factor (kg_CO ₂ e/TJ _{NCV})	Default Emissions factor (t_CO ₂ e/TJ _{NCV})																	
CH ₄	300	28	8400	8.4000																	
N ₂ O	4	265	1,060	1.060																	
			Total	9.46																	
Purpose of data	Calculation of emission reductions																				
Additional comment	This value corresponds with updated AR5 GWP value. These values are only applied for 2021 and onwards figures. AR5 - https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_Chapter08_FINAL.pdf																				

Data/parameter	NCV _b
Unit	TJ/ton
Description	Net calorific value of the wood fuel used in the baseline
Source of data	http://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_1_Ch1_Introduction.pdf Table 1.2
Value(s) applied	0.0156
Choice of data or Measurement methods and procedures	Deemed valid by Methodology
Purpose of data	Calculation of emission reductions
Additional comment	

Data/parameter	$W_{b,y}$
Unit	T/litre
Description	Quantity of wood fuel that is used to treat 1 litre of water in the baseline scenario b during year y
Source of data	GS default value
Value(s) applied	0.0004
Choice of data or Measurement methods and procedures	A default value will be used rather than results from a modified Water Boiling Test.
Purpose of data	Calculation of emission reductions
Additional comment	

Data/parameter	$W_{p,y}$
Unit	T/litre
Description	Quantity of wood fuel that is used to treat 1 litre of water in the project scenario p during year y
Source of data	GS default value
Value(s) applied	0.0004
Choice of data or Measurement methods and procedures	A default value will be used rather than results from a modified Water Boiling Test.
Purpose of data	Calculation of emission reductions
Additional comment	

Data/parameter	C_j
Unit	Percentage
Description	Portion of users of project safe water supply who were already in baseline using a non-boiling safe water supply
Source of data	Baseline Study
Value(s) applied	3.00%
Choice of data or Measurement methods and procedures	Deemed valid by Methodology
Purpose of data	Calculation of emission reductions
Additional comment	

Data/parameter	Xboil Non Suppressed Demand
Unit	Percentage
Description	Percentage of premises that in the absence of the project activity would have used non-GHG emitting

	technologies like chlorine treatment techniques (if available) in the project boundary,.
Source of data	Baseline study. Credible literature, studies, survey, reports, relevant to the project target area
Value(s) applied	0.00%
Choice of data or Measurement methods and procedures	Suppressed demand will be determined through a set of questions in the project survey that establish the method households use to purify their water, if any, and how they would choose to purify if they were not subject to monetary and access barriers. This is in line with the Gold Standard principles of suppressed demand outline in annex 2. A fixed suppressed demand baseline has been opted for, however , in the event the project surveys show a substantial change in fuel use characteristics, a new baseline shall be conducted.
Purpose of data	Calculation of emission reductions
Additional comment	

Data/parameter	Pb,boil
Unit	Percentage
Description	Percentage of persons boiling water for purification in the baseline scenario.
Source of data	Baseline Study
Value(s) applied	0%
Choice of data or Measurement methods and procedures	Deemed valid by Methodology
Purpose of data	Calculation of emission reductions
Additional comment	

SDG5

Data/parameter	T _{b,y}
Unit	Hours
Description	Baseline time spent collecting water per household per trip
Source of data	Baseline kitchen survey

Value(s) applied	2.3 hours per day collecting firewood
Choice of data or Measurement methods and procedures	Established through questions in the baseline on a representative sample of the end users
Purpose of data	To measure the decrease in hours spent collecting firewood, a responsibility falling disproportionately on women, as an indicator of reduced time poverty of women.
Additional comment	

Data/parameter	Trips _b
Unit	Number
Description	Number of trips collecting water per household per week
Source of data	Baseline kitchen survey
Value(s) applied	6.89
Choice of data or Measurement methods and procedures	Established through questions in the baseline on a representative sample of the end users
QA/QC procedures	Transparent data analysis and reporting
Purpose of data	To measure the decrease in hours spent collecting water, a responsibility falling disproportionately on women, as an indicator of reduced time poverty of women.
Additional comment	

D.2 Data and parameters monitored

SDG 3

Data / Parameter	P _y
Unit	Number
Description	Number of persons having access to safe water from the project activity.
Source of data	Water point Project Database
Value(s) applied	GS11046 – 4,921 GS11047 – 5,351 GS11048 – 7,145 GS11049 – 7,513
Measurement methods and procedures	Sum of the total number of people using each water point in the project.

Monitoring frequency	Annual
QA/QC procedures	Transparent data analysis and reporting
Purpose of data	To measure the additional persons with access and provision to safe water in the project scenario, which will positively impact good health and wellbeing, as well as access to clean water and sanitation.
Additional comment	

Data / Parameter	P _{safe}
Unit	Number
Description	Number of additional persons consuming safe water in the project activity compared to the baseline scenario.
Measured/calculated/default	Measured
Source of data	Household lists; Usage Survey; Water Consumption Field Test
Value(s) of monitored parameter	GS11046 – 4,773 GS11047 – 5,190 GS11048 – 6,931 GS11049 – 7,288
Monitoring equipment	-
Measuring/reading/recording frequency:	Annual
Calculation method (if applicable):	Review the number of people using the borehole according to the household lists for each VPA and multiply by the usage rate to calculate the number of people now using a safe water source in order to calculate the amount of biomass that would have been burnt to purify the water in the baseline scenario. Deduct from this any individuals that still boil water in the project scenario.
QA/QC procedures:	Transparent data analysis and reporting

Purpose of data	To calculate the additional number of persons who have access to safe water in the project activity compared to the baseline scenario and to calculate from that the percentage decrease in biomass used to purify water through boiling.
Additional comments:	

SDG 5

Data / Parameter	$T_{p,y}$
Unit	Hours
Description	Project time spent collecting water per household per trip.
Source of data	Project survey
Value(s) applied	0.59
Measurement methods and procedures	Established through questions in the project survey on a representative sample of the end users.
Monitoring frequency	Annual
QA/QC procedures	Transparent data analysis and reporting
Purpose of data	To measure the decrease in hours spent collecting water and firewood, a responsibility falling disproportionately on women, as an indicator of reduced time poverty of women.
Additional comment	

Data / Parameter	TR_y
Unit	Hours
Description	Total reduction time spent collecting firewood for project activity in year y
Measured/calculated/default	Measured
Source of data	Project Survey
Value(s) of monitored parameter	1.71 (All VPAs)
Monitoring equipment	-

Measuring/reading/recording frequency:	Annual
Calculation method (if applicable):	Calculate the average amount of time spent collecting firewood in the project scenario and compare to the baseline scenario
QA/QC procedures:	Transparent data analysis and reporting -
Purpose of data	To quantify whether the project has contributed to a reduction in the amount of time spent collecting water and firewood compared to the baseline scenario
Additional comments:	

Data / Parameter	T _{usage}
Unit	Percentage
Description	Usage of time saved by the project activity
Source of data	Project Survey
Value(s) applied	1. (Unpaid) Domestic work (includes cooking and caring for family members) – 100% 2. Income generating activities – 82% 3. Religious activities – 15% 4. Social and leisure activities – 25% 5. Voluntary activities – 2% 6. Education and training – 0% 7. Other (Specify) – 0%
Measurement methods and procedures	Ask users how time saved by project in the project scenario (on water and firewood collection), as opposed to the baseline scenario, is now being used.
Monitoring frequency	Annual
QA/QC procedures	Transparent data analysis and reporting
Purpose of data	Emission reduction calculations
Additional comment	

SDG 6

Data / Parameter	P _y
Unit	Number

Description	Number of persons having access to safe water in the project activity
Measured/calculated/default	Measured
Source of data	Baseline study
Value(s) of monitored parameter	GS11046 - 4,921 GS11047 – 5,351 GS11048 – 7,145 GS11049: 7,513
Monitoring equipment	-
Measuring/reading/recording frequency:	Annual
Calculation method (if applicable):	Sum of the total number of people using each borehole in the project. The total number of households using each borehole will be established through lists supplied by the water resource committee and/or community group and/or district officer responsible for that borehole. Using this method, the total number of people using each borehole will be known.
QA/QC procedures:	Transparent data analysis and reporting
Purpose of data:	Determination of number of persons using safe water within 1km walking or pedalling distance from borehole.

Data / Parameter	P_{access}
Unit	Number
Description	Number of additional persons having access to safe water in the project activity compared to the baseline scenario.
Measured/calculated/default	Measured
Source of data	Household lists; Usage Survey

Value(s) of monitored parameter	GS11046 – 3,527 GS11047 – 3,835 GS11048 – 5,121 GS11049 – 5,385
Monitoring equipment	-
Measuring/reading/recording frequency:	Annual
Calculation method (if applicable):	Borehole users * Usage rate
QA/QC procedures:	Transparent data analysis and reporting
Purpose of data:	To calculate the additional number of persons having access to safe water in the project activity compared to the baseline scenario within 1km walking or pedalling distance from borehole.

Data / Parameter	$Q_{p, \text{cleanboil}, y}$
Unit	Litres per person per day
Description	Quantity of safe water boiled in the project scenario p during the year y using the zero or low emissions clean water supply technology
Source of data	Water Consumption Field Test (WCFT)
Value(s) applied	0
Measurement methods and procedures	Method used similar to Kitchen Performance Test in which the volume of water consumed in each household is averaged over 3 days. The WCFT will be carried out by staff trained by CO2balance to meet the specific requirements of the methodology. All data presented in excel is subject to checking and cross referencing of a sample of the raw data by CO2balance UK Ltd.
Monitoring frequency	Biennial (Every 2 years). In MP1 it was conducted between 30/11/2022 – 02/12/2022.
QA/QC procedures	Clear guidance is provided to field staff and results are spot checked against the hard copy of the surveys.

Purpose of data	Emission reduction calculations
Additional comment	Measured boiled water consumed for drinking, cooking and basic personal hygiene considered safe for human consumption prior to boiling. This is assumed from the stated water source.

Data / Parameter	$Q_{p,rawboil,y}$
Unit	Litres per person per day
Description	The raw of unsafe water that is still boiled after installation of the water treatment technology
Source of data	Water Consumption Field Test (WCFT)
Value(s) applied	0
Measurement methods and procedures	Method used similar to Kitchen Performance Test in which the volume of water consumed in each household is averaged over 3 days. The WCFT will be carried out by staff trained by CO2balance to meet the specific requirements of the methodology. All data presented in excel is subject to checking and cross referencing of a sample of the raw data by CO2balance UK Ltd.
Monitoring frequency	Biennial (Every 2 years). In MP1 it was conducted between 30/11/2022 – 02/12/2022.
QA/QC procedures	Extensive training with TRANSFORM BURKINA field staff, including video calls and provision of Survey Guidance document and comprehensive field sheets. Transparent data analysis and reporting. Hard copies of WCFT surveys cross referenced and kept.
Purpose of data	Emission reduction calculations
Additional comment	Measured boiled water consumed for drinking, cooking and basic personal hygiene considered unsafe for human consumption prior to boiling. This is assumed from the stated water source.

Data / Parameter	Quality of Treated Water
-------------------------	--------------------------

Unit	Parameters as per Burkina Faso National Standards
Description	Performance of the treatment technology
Source of data	Tests certified by an official laboratory
Value(s) applied	All boreholes were tested after completing their rehabilitation. Most of the boreholes passed for all parameters, and those that failed were treated immediately.
Measurement methods and procedures	Water quality testing was conducted in partnership with Laboratoire Aina in Ouagadougou (http://laboratoire-aina.com/). Testing was certified in line with national standards. Water samples are taking at the point of source, directly from the boreholes.
Monitoring frequency	A sample of boreholes are tested on a quarterly basis. As per the requirements, at least one round of testing every 2 years will be carried out by an accredited laboratory.
QA/QC procedures	Transparent data reporting.
Purpose of data	To test water quality for safety of human consumption.
Additional comment	The water samples will be taken at source by the testing body.

SDG 13

Data / Parameter	$Q_{p,y}$
Unit	Litres per person per day
Description	Quantity of safe water supplied in the project scenario p during the year y using the zero or low emissions clean water supply technology
Source of data	Water Consumption Field Test (WCFT)
Value(s) applied	7 (capped by methodology)
Measurement methods and procedures	Method used similar to Kitchen Performance Test in which the volume of water consumed in each

	household is averaged over 3 days. Volume capped at 7 litres per person per day as per the methodology. The WCFT will be carried out by staff trained by CO2balance to meet the specific requirements of the methodology. All data presented in excel is subject to checking and cross referencing of a sample of the raw data by CO2balance UK Ltd.
Monitoring frequency	Biennial (Every 2 years). In MP1 it was conducted between 29/11/2022 – 02/12/2022.
QA/QC procedures	Clear guidance is provided to field staff and results are spot checked against the hard copy of the surveys.
Purpose of data	Emission reduction calculations
Additional comment	Measured water consumption is limited to drinking, cooking and basic personal hygiene. The quantity of safe water under these categories consumed in the project scenario is quantified through measurements and survey.

Data / Parameter	$U_{p,y}$
Unit	Percentage
Description	Usage rate in project scenario p through year y
Source of data	Annual Usage Survey
Value(s) applied	The Usage Rate in the Usage Survey was calculated at 73.89%. This is the value used as it is lower than the capped value.
Measurement methods and procedures	Under a CO2balance imposed project cap, usage rate will be capped at 95%. Annual usage survey will be carried out by staff trained by CO2balance to meet the specific requirements of the methodology. All data presented in excel is subject to checking and cross referencing of a sample of the raw data by CO2balance UK Ltd
Monitoring frequency	Annual
QA/QC procedures	Extensive training with TRANSFORM BURKINA field staff, including video calls and provision of

	Survey Guidance document and comprehensive field sheets. Transparent data analysis and reporting. Hard copies of Usage surveys cross referenced and kept.
Purpose of data	Calculation of usage
Additional comment	Questions are asked in a face-to-face survey and designed to establish whether a household can be considered a regular user of the water point.

Data / Parameter	$N_{p,y}$
Unit	Project Technology Days
Description	Number of persons consuming water supplied by project scenario p through year y
Source of data	Project Database
Value(s) applied	GS11046 – 1,528,457 GS11047 – 1,127,677 GS11048 – 464,428 GS11049 – 240,359 Downdays % per VPA: GS11046 – 1.38% (115 days) GS11047 – 5.14% (288 days) GS11048 – 0% (0 days) GS11049 – 0% (0 days)
Measurement methods and procedures	Sum of the total number of people using each water point in the project multiplied by the number of days crediting each water point earns in this monitoring period. All PTDS have been capped accordingly for functionality, a maximum 95% functionality is being claimed.
Monitoring frequency	Continuous

QA/QC procedures	Calculations are double-checked. Transparent data analysis and reporting
Purpose of data	Emission reduction calculations
Additional comment	Household lists of water point users including details for the main contact from the household.

Data / Parameter	$LE_{p,y}$
Unit	tCO ₂ e per year
Description	Leakage in project scenario p during year y.
Source of data	Baseline and monitoring surveys.
Value(s) applied	0
Measurement methods and procedures	Assessed every two years using baseline and monitoring surveys.
Monitoring frequency	Biennial
QA/QC procedures	Transparent data analysis and reporting
Purpose of data	Emission reduction calculations
Additional comment	

Data/parameter	$fNRB_{i,y}$
Unit	Fractional non-renewability
Description	Non-renewability status of woody biomass fuel in scenario i during year y
Source of data	Calculation performed by CO2balance UK Limited, following CDM TOOL30 v4.
Value(s) applied	0.90
Choice of data or Measurement methods and procedures	Calculated values of fraction of non-renewable biomass as outlined by the UNFCCC CDM TOOL30 v4.
Purpose of data	Calculation of emission reductions
Additional comment	

Data / Parameter	Reported cases of corruption arising from the project activity
-------------------------	--

Unit	Case communicated
Description	Reported cases of corruption arising from project activity communicated by communities
Source of data	Continuous Grievance Mechanism
Value(s) applied	No cases of corruption were reported during this monitoring period
Measurement methods and procedures	The communities are able to communicate any cases of corruption through the continuous input mechanism. The continuous input mechanism is monitored and any reports of corruption are acted on. During this monitoring period, no cases of corruption were reported.
Monitoring frequency	Continuous
QA/QC procedures	Transparent data analysis and reporting
Purpose of data	To monitor 'Corruption' safeguarding principle.
Additional comment	

Data / Parameter	Community Maintenance Training
Unit	
Description	To ensure long term sustainability of the water points, and avoid unexpected breakdowns and spending
Source of data	Training reports
Value(s) applied	Training was conducted alongside WASH training between 20/04/2022 and 04/02/2023 in all project communities. These are the specific dates for each VPA: GS11046: 20/04/2022 – 30/04/2022 GS11047: 21/06/2022 – 25/08/2022 (except M08, which was rehabbed outside MP1) GS11048: 17/11/2022 – 04/02/2023 GS11049: 21/12/2022 – 04/02/2023

Measurement methods and procedures	Training was conducted at the beginning of the project on conducting minor maintenance and is repeated annually alongside the WASH trainings.
Monitoring frequency	Annual
QA/QC procedures	Transparent data analysis and reporting
Purpose of data	To monitor 'Negative Economic Consequences' safeguarding principle.
Additional comment	

Data / Parameter	WASH training
Unit	
Description	Community WASH trainings conducted to promote hygiene and sanitation practices for the reduction of cases of water borne diseases
Source of data	Training reports, Monitoring Project Survey
Value(s) applied	Training was conducted between 20/04/2022 and 04/02/2023 in all project communities. These are the specific dates for each VPA: GS11046: 20/04/2022 – 30/04/2022 GS11047: 21/06/2022 – 25/08/2022 (except M08, which was rehabbed outside MP1) GS11048: 17/11/2022 – 04/02/2023 GS11049: 21/12/2022 – 04/02/2023
Measurement methods and procedures	For each borehole rehabilitated within this project a WASH programme is being carried out, including WASH training which was conducted at the beginning of the project, as well as subsequent, annual WASH follow-up trainings. Each training follows an agenda and has a participation list collected. The trainings involve introducing the concept of WASH, duties of village WASH and provide hands-on demonstrations with the community group.

	Incidences of water borne illnesses are also monitored through the annual Monitoring Project Survey
Monitoring frequency	Annual
QA/QC procedures	Transparent data analysis and reporting
Purpose of data	To monitor 'Community Health, Safety and Working Conditions' safeguarding principle.
Additional comment	

D.3. Comparison of monitored parameters with last monitoring period

Data/Parameter	Value obtained in this monitoring period	Value obtained last monitoring period
Psafe	GS11046 – 4,773 GS11047 – 5,190 GS11048 – 6,931 GS11049 – 7,288	N/A
Py	GS11046 – 4,921 GS11047 – 5,351 GS11048 – 7,145 GS11049 – 7,513	N/A
Paccess	GS11046 – 3,527 GS11047 – 3,835 GS11048 – 5,121 GS11049 – 5,385	N/A
Tp,y	0.59	N/A
TR,y	1.71	N/A
Tusage	1. (Unpaid) Domestic work (includes cooking and caring for family members) – 100% 2. Income generating activities – 82% 3. Religious activities – 15% 4. Social and leisure activities – 25% 5. Voluntary activities – 2%	N/A

	6. Education and training – 0%	
	7. Other (Specify) – 0%	
Qp,cleanboil,y	0	N/A
Qp,rawboil, y	0	N/A
Quality of Treated Water	pass	N/A
Qp,y	7	N/A
Up,y	73.89%	N/A
Np,y	GS11046 – 1,528,457 GS11047 – 1,127,677 GS11048 – 464,428 GS11049 – 240,359	N/A
LEp,y	0	N/A
fNRB,i,y	0.90	N/A
WASH	Conducted successfully	N/A
Community Maintenance Training	Conducted successfully	N/A
Corruption cases arisen from project	0	N/A

D.4. Implementation of sampling plan

The project proponent has elected to cross-sample technologies across VPA boreholes in the Burkina Faso project area. The samples for the surveys analysed below are randomly selected from the borehole information databases using the RSG procedure previously explained in Section C, in line with the minimum sample size requirements as defined by the methodology, and cover VPA, borehole and household levels. The random sampling procedure is as follows.

Annual Monitoring

As per 90/30 precision, achieved using Raosoft Sample Size Calculator, it was determined that 8 of the 26 boreholes were randomly selected for inclusion in the annual monitoring surveys. While there were 52 rehabbed boreholes at the time of

annual monitoring, 26 of them had to be left out of the sampling as per their rehab date. The methodology states the technology must have been in use for a minimum time of 0.5 years, which was not the case for 26 boreholes.

The 8 boreholes were selected randomly from the full list of boreholes by generating a random list of numbers on the Research Randomizer online resource and selecting the first 8. Then, the user lists of these 8 boreholes were randomized, using the same tool. The first 109 households were selected in line with the 90/30 precision and a minimum sample size of 100, forming the sample for the Annual Monitoring Surveys (Project Survey and Usage Survey). More information on this process can be found in the supporting document of the random sample spreadsheet. These surveys were conducted between 01/12/2022-14/12/2022. 23 of the selected borehole users served as a buffer group to survey in case any households were unavailable.

The data collected is outlined below and in the Project and Usage Survey Report tabs. Relevant analysis can be found in the Emission Reduction Calculation excel documents.

The surveys were conducted before the end date of the monitoring period of the VPAs.

Project survey – The results of the project survey revealed that all respondents used the borehole as their main source of water and did not to treat water to make it safe as it is not necessary. The prevalence of stomach related illnesses/ water-borne diseases had decreased since the baseline study with 100% of respondents stating that they never suffered from problems, compared to only 54% in the baseline survey.

All respondents stated that the project had saved them time, through the shorter distance to the water source (99%), less time spent waiting at the water source (1%). Time saved was spent on unpaid domestic work (100%), income generating activities (82%), religious activities (15%), social and leisure activities (25%), voluntary activities (2%) and education and training 0%).

Usage survey – The results of the Usage Survey revealed that the borehole was the main source of water for drinking, basic personal hygiene and food preparation for 99% respondents and that the water collected was sufficient for these uses in the

rainy season. In the dry season, 96.7% of users confirmed using the borehole for drinking, basic personal hygiene and food preparation. Water was also used to wash clothes and utensils by some respondents.

Water Quality Testing

During MP1, 105 boreholes underwent water quality testing to ensure the boreholes were delivering clean water in line with national standards, testing parameters outlined in the Burkina Faso National Water Standards. The testing and analysis of results were undertaken by the Burkina Faso Ministry of Health.

All 105 boreholes were tested for water quality post-rehabilitation, meeting the methodological requirement that each borehole should be tested once per year. The tables below contain the details of the test dates and the results of the test. The details for M08 have been left blank as it was rehabilitated outside of the monitoring period.

Batch 1			
BH ID	Date	Result	If failed, pass date
N01	20/04/2022	✓	
N02	20/04/2022	✓	
N03	29/04/2022	✓	
N04	20/04/2022	✓	
N05	29/04/2022	✓	
N06	06/05/2022	✓	
N07	28/04/2022	✓	
N08	20/04/2022	✓	
N09	20/04/2022	✓	
N10	20/04/2022	✓	
N11	20/04/2022	✓	
N12	29/04/2022	✓	
N13	20/04/2022	✓	
N14	20/04/2022	✓	
N15	29/04/2022	✓	
N16	29/04/2022	✓	
N17	06/05/2022	×	23/08/2022
N18	20/04/2022	✓	
N19	20/04/2022	✓	
N20	25/04/2022	✓	
N21	20/04/2022	✓	
N22	03/05/2022	✓	
N23	25/04/2022	✓	
N24	03/05/2022	✓	
N25	28/04/2022	✓	
N26	03/05/2022	✓	

Batch 2			
BH ID	Date	Result	If failed, pass date
M01	23/06/2022	✓	
M02	23/06/2022	✓	
M03	23/08/2022	✓	
M04	23/08/2022	✓	
M05	11/07/2022	✓	
M06	30/06/2022	✓	
M07	23/06/2022	✓	
M08			
M09	30/06/2022	✓	
M10	05/09/2022	✓	
M11	04/08/2022	✓	
M12	08/08/2022	✓	
M13	08/08/2022	✓	
M14	08/08/2022	✓	
M15	16/08/2022	✓	
M16	04/08/2022	✓	
M17	16/08/2022	✓	
M18	16/08/2022	✓	
M19	04/08/2022	✓	
M20	16/08/2022	✓	
M21	30/06/2022	✓	
M22	23/08/2022	✓	
M23	29/06/2022	✓	
M24	05/07/2022	✓	
M25	23/08/2022	✓	
M26	11/07/2022	✓	

Batch 3			
BH ID	Date	Result	If failed, pass date
L01	02/02/2023	✓	
L02	21/11/2022	✓	
L03	24/11/2022	✓	
L04	21/11/2022	✓	
L05	06/02/2023	✓	
L06	23/01/2023	✓	
L07	22/02/2023	✓	
L08	02/02/2023	✓	
L09	22/02/2023	✓	
L10	06/02/2023	✓	
L11	22/02/2023	✓	
L12	06/02/2023	✓	
L13	23/12/2022	✓	
L14	23/12/2022	✓	
L15	23/12/2022	✓	
L16	19/01/2023	✓	
L17	22/02/2023	✓	
L18	23/01/2023	✓	
L19	23/12/2022	✓	
L20	23/12/2022	✓	
L21	23/12/2022	✓	
L22	23/01/2023	✓	
L23	24/11/2022	✓	
L24	24/11/2022	✓	
L25	24/11/2022	✓	
L26	24/11/2022	✓	

Batch 4			
BH ID	Date	Result	If failed, pass date
K01	23/12/2022	✓	
K02	23/12/2022	✓	
K03	23/12/2022	✓	
K04	23/12/2022	✓	
K05	19/01/2023	✓	
K06	19/01/2023	✓	
K07	06/02/2023	✓	
K08	02/02/2023	✓	
K09	06/02/2023	✓	
K10	19/01/2023	✓	
K11	19/01/2023	✓	
K12	19/01/2023	✓	
K13	19/01/2023	✓	
K14	23/01/2023	✓	
K15	22/02/2023	✓	
K16	31/01/2023	✓	
K17	22/02/2023	✓	
K18	22/02/2023	✓	
K19	22/02/2023	✓	
K20	22/02/2023	✓	
K21	31/01/2023	✓	
K22	31/01/2023	✓	
K23	23/01/2023	✓	
K24	19/01/2023	✓	
K25	23/01/2023	✓	
K26	22/02/2023	✓	

From the results, 1 borehole (N17) failed to meet all requirements within the national standards and underwent professional treatment and retesting to improve and verify the good water quality. See the table below containing the details. Evidence of this has been uploaded at Verification Review.

Borehole ID	Date of failed WQT	Parameter failed	Details of treatment	Date of passed re-test
N17	06/05/2022	High turbidity and iron content	Chlorination/ Flushing	23/08/2022

SECTION E. CALCULATION OF SDG IMPACTS

E.1. Calculation of baseline value or estimation of baseline situation of each SDG Impact

>> Details of equations and indicators used to estimate baseline values for SDG outcomes are explained below. Calculation is provided in the corresponding Emission Reductions calculations in the 'SDG Impact' sheet.

SDG 3 (Good Health and Wellbeing)

The outcome for SDG 3 is quantified as the additional number of persons consuming safe water in the project activity compared to the baseline scenario (P_{safe}). The number of persons using each borehole is determined in the sensitization process during the rehabilitation. The percentage of users who were already consuming safe water in the baseline without boiling it (C_j) is determined through the baseline survey and deducted. Additionally, the percentage of users who consumed safe water by boiling it in the baseline ($P_{b,boil}$) is deducted. Calculations are as follows:

$$P_{safe} = P_y * (1 - C_j) * (1 - P_{b,boil})$$

$$GS11046: 4,773 = 4,921 * (1-0.03) * (1-0)$$

$$GS11047: 5,190 = 5,351 * (1-0.03) * (1-0)$$

$$GS11048: 6,931 = 7,145 * (1-0.03) * (1-0)$$

$$GS11049: 7,288 = 7,513 * (1-0.03) * (1-0)$$

Baseline value = the number of people consuming safe water in the baseline scenario. This estimated value is calculated using the baseline survey and project database user lists.

Where:

P_y Number of persons having access to safe water in the project activity. Calculated from the household (HH) lists of the water points, including the ER Calculation spreadsheet.

C_j	Expressed as a percentage, the portion of users of the project technology j who in the baseline were already consuming safe water without boiling it. Derived from the baseline survey as 0.03.
$P_{b,boil}$	Percentage of persons boiling water for purification in the baseline scenario. Derived from the baseline survey as 0.

SDG 5 (Gender Equality)

By ensuring that there is a safe water source at the centre of communities, the projects have the potential to reduce the time poverty of women, because the time burden of collecting water and firewood, which falls disproportionately on women, will be reduced. As the safe water sources are located centrally within communities, closer to public institutions and villages, the distance travelled to collect water will be reduced, reducing the time per trip spent collecting water. In addition, as the water sources will be maintained, they will provide a reliable water supply, ensuring that water needs for cooking, drinking, and food preparation can be met by one central water source, so the time spent collecting water is minimised. Time spent collecting firewood is also decreased as the provision of safe water removes the need to boil water to purify. The decrease per household in time spent collecting water and firewood will be taken as a proxy contribution towards the SDG target.

The overall reduction in time spent collecting water and firewood by the project activity are then calculated as follows:

$$TR_y = T_{b,y} - T_{p,y}$$

$$GS11046-49: 1.71 \text{ hours} = 2.3 - 0.59$$

Where:

$T_{b,y}$	Time spent collecting water and firewood per household per day prior to project (hours). Derived from the baseline survey as 2.3 hours.
-----------	---

SDG 6 (Clean Water and Sanitation)

The outcome for SDG 6 is quantified as the additional number of persons having access to safe water in the project activity compared to the baseline scenario (P_{access}). The number of persons using each borehole is determined in the sensitization process during the rehabilitation. The percentage of users who were already consuming safe water in the baseline without boiling it (C_j) will be determined through the baseline survey. Calculations are as follows:

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

$$GS11046: 3,527 = 4,921 * (1 - 0.03) * 0.74$$

$$GS11047: 3,835 = 5,351 * (1 - 0.03) * 0.74$$

$$GS11048: 5,121 = 7,145 * (1 - 0.03) * 0.74$$

$$GS11049: 5,385 = 7,513 * (1 - 0.03) * 0.74$$

Where:

P_y	Number of persons having access to safe water in the project activity. Calculated from the household (HH) lists of the water points, including the ER Calculation spreadsheet.
$U_{p,y}$	Usage rate in project scenario p during year y. Taken from cell C143 (Report Sheet) of the Usage Survey (capped at 95%).
C_j	Expressed as a percentage, the portion of users of the project technology j who in the baseline were already consuming safe water without boiling it. Derived from the baseline survey as 0.03.

Baseline value = the number of people with access to safe water in the baseline scenario. This estimated value is calculated using the baseline survey and project database user lists.

SDG 13 (Climate Action)

CO2 emission reductions are the indicator to demonstrate that the project has raised capacity for effective climate change-related planning and management. This outcome

is measured using the emission reductions calculations. The baseline indicators are detailed in Section D.1 and are as follows:

Baseline Emissions ($BE_{b,y}$):

$$BE_{b,y} = B_{b,y} * \left((fNRB_y * EF_{b,fuel,co2}) + EF_{b,fuel,nonco2} \right) * NCV_{b,fuel}$$

Where:

$BE_{b,y}$	Emissions for baseline scenario b during the year y in tCO ₂ e
$B_{b,y}$	Quantity of fuel consumed in the baseline scenario b during year y, in tons, as per by-default factors
$fNRB_y$	Fraction of biomass used during year y for the considered scenario that can be established as non-renewable biomass
$NCV_{b,fuel}$	Net calorific value of the fuel that is substituted or reduced (IPCC default for wood fuel, 0.0156 TJ/ton)
$EF_{b,fuel,co2}$	CO ₂ emission factor of the fuel that is substituted or reduced. 112 tCO ₂ /TJ for Wood/Wood Waste
$EF_{b,fuel,nonco2}$	Non-CO ₂ emission factor of the fuel that is substituted or reduced.

Where:

$$B_{b,y} = (1 - C_j) * N_{j,y} * W_{i,y} * (Q_{j,y} + Q_{j,rawboild,y})$$

Where :

$N_{j,y}$	Number of person days consuming water supplied by the project scenario p through year y
C_j	Expressed as a percentage, the portion of users of the project technology j who in the baseline were already consuming safe water without boiling it
$B_{b,y}$	Quantity of fuel consumed in baseline scenario b during the year y in tons
$Q_{p,y}$	Quantity of safe water in litres consumed in the project scenario p and supplied by project technology per person per day
$Q_{p,rawboild,y}$	Quantity of raw water boiled in the project scenario p per person per day

$W_{b,y}$ Quantity of fuel in tons required to treat water using technologies representative of baseline scenario b during project year y, as per Baseline Water boiling Test

2022 emissions

$$GS11046: 5,982 = 3,478 * ((0.90 * 112) + 9.46) * 0.0156$$

$$\text{Where: } 3,478 = (1 - 0.03) * 1,280,685 * 0.0004 * (7 + 0)$$

$$GS11047: 3,992 = 2,321 * ((0.90 * 112) + 9.46) * 0.0156$$

$$\text{Where: } 2,321 = (1 - 0.03) * 854,844 * 0.0004 * (7 + 0)$$

$$GS11048: 767 = 446 * ((0.86 * 112) + 9.46) * 0.0156$$

$$\text{Where: } 446 = (1 - 0.03) * 164,519 * 0.0004 * (7 + 0)$$

$$GS11049: 36 = 21 * ((0.86 * 112) + 9.46) * 0.0156$$

$$\text{Where: } 21 = (1 - 0.03) * 7,891 * 0.0004 * (7 + 0)$$

2023 emissions

$$GS11046: 1,155 = 672 * ((0.90 * 112) + 9.46) * 0.0156$$

$$\text{Where: } 672 = (1 - 0.03) * 247,772 * 0.0004 * (7 + 0)$$

$$GS11047: 1,274 = 741 * ((0.90 * 112) + 9.46) * 0.0156$$

$$\text{Where: } 741 = (1 - 0.03) * 272,833 * 0.0004 * (7 + 0)$$

$$GS11048: 1,400 = 814 * ((0.86 * 112) + 9.46) * 0.0156$$

$$\text{Where: } 814 = (1 - 0.03) * 299,909 * 0.0004 * (7 + 0)$$

$$GS11049: 1,085 = 631 * ((0.86 * 112) + 9.46) * 0.0156$$

$$\text{Where: } 631 = (1 - 0.03) * 232,468 * 0.0004 * (7 + 0)$$

E.2. Calculation of project value or estimation of project situation of each SDG Impact

>> Details of equations used to calculate project value for SDG outcomes appear below. Calculation is provided in the corresponding Emission Reductions calculations in the 'SDG Calculations' tab.

Outcomes for SDG 3 (Good Health and Wellbeing)

The outcome for SDG 3 is quantified as the additional number of persons consuming safe water in the project activity compared to the baseline scenario (P_{safe}). The percentage of users who were already consuming safe water in the baseline without boiling it (C_j) is determined through the baseline survey and deducted. Additionally, the percentage of users who consumed safe water by boiling it in the baseline ($P_{b,boil}$) is deducted. Calculations are as follows:

$$P_{safe} = P_y * (1 - C_j) * (1 - P_{b,boil})$$

$$GS11046: 4,773 = 4,921 * (1-0.03) * (1-0)$$

$$GS11047: 5,190 = 5,351 * (1-0.03) * (1-0)$$

$$GS11048: 6,931 = 7,145 * (1-0.03) * (1-0)$$

$$GS11049: 7,288 = 7,513 * (1-0.03) * (1-0)$$

P_y Number of persons having access to safe water in the project activity. Calculated from the household (HH) lists of the waterpoints, including the ER Calculation spreadsheet.

GS11046 – 4,921

GS11047 – 5,351

GS11048 – 7,145

GS11049 – 7,513

C_j Expressed as a percentage, the portion of users of the project technology j who in the baseline were already consuming safe water without boiling it. Derived from the baseline survey as 0.03.

$P_{b,boil}$ Percentage of persons boiling water for purification in the baseline scenario. Derived from the baseline survey as 0.

Outcomes for SDG 5 (Gender Equality)

The overall reduction in time spent collecting water and firewood by the project activity is calculated as follows:

$$TR_y = T_{b,y} - T_{p,y}$$

$$GS11046-49: 1.71 \text{ hours} = 2.3 - 0.59$$

Where:

TR_y Total reduction in time spent collecting water per household per day for project activity in year y (hours).

$T_{b,y}$ Time spent collecting water and firewood per household per day prior to project (hours). Derived from the baseline survey as 2.3 hours.

$T_{p,y}$ Project time spent collecting water per household per day(hours). Taken from cell I5 from the Project Survey (Report tab).

Outcomes for SDG 6 (Clean Water and Sanitation)

The outcome for SDG 6 is quantified as the additional number of persons having access to safe water in the project activity compared to the baseline scenario (P_{access}). Calculations are as follows:

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

$$GS11046: 3,527 = 4,921 * (1-0.03) * 0.74$$

$$GS11047: 3,835 = 5,351 * (1-0.03) * 0.74$$

$$GS11048: 5,121 = 7,145 * (1-0.03) * 0.74$$

$$GS11049: 5,385 = 7,513 * (1-0.03) * 0.74$$

Where:

P_{access}	Number of additional persons having access to safe water in the project activity compared to the baseline scenario.
P_y	Number of persons having access to safe water in the project activity. Calculated from the household (HH) lists of the water points, including the ER Calculation spreadsheet.
U_{py}	Usage rate in project scenario p during year y. Taken from row 52 (Usage Rate tab) of the Usage Survey. $U_{p,y}$ is 73.89% for all VPAs.
C_j	Expressed as a percentage, the portion of users of the project technology j who in the baseline were already consuming safe water without boiling it. Derived from the baseline survey as 0.03.

Outcomes for SDG 13 (Climate Action)

CO2 emission reductions are the indicator to demonstrate that the project has raised capacity for effective climate change-related planning and management. The emission reductions for the current monitoring period can be found in the corresponding Emission Reductions excel document.

Project Emissions

$$PE_{p,y} = B_{p,y} * \left((fNRB_y * EF_{p,fuel,co2}) + EF_{p,fuel,nonco2} \right) * NCV_{p,fuel}$$

Where:

$PE_{p,y}$	Emissions for project scenario p during the year y in tCO ₂ e
$B_{p,y}$	Quantity of fuel consumed in project scenario p during year y, in tons, as derived from the statistical analysis conducted on the data collected during the performance field tests (cases when no baseline performance field test are performed, e.g. by-default baseline factors)
$fNRB_y$	Fraction of biomass used during year y for the considered scenario that can be established as non-renewable biomass
$NCV_{p,fuel}$	net calorific value of the project fuel (IPCC default for wood fuel, 0.0156 TJ/ton). This is equal to the baseline fuel NCV in projects which use the same fuel
$EF_{p,fuel,CO_2}$	CO ₂ emission factor of the project fuel. This is equal to the baseline fuel EF in projects which use the same fuel, 112 tCO ₂ /TJ for Wood/Wood Waste
$EF_{p,fuel,nonCO_2}$	Non-CO ₂ emission factor of the project fuel. This is equal to the baseline fuel EF in projects which use the same fuel

Where:

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

C_j	Expressed as a percentage, this is the portion of users of the project technology j who in the baseline were already consuming safe water without boiling it
$N_{p,y}$	Project technology-days in the project database for project scenario p through year y
$W_{b,y}$	Quantity of wood fuel or fossil fuel required to boil 1 litre of water using technologies representative of baseline scenario b during year y
$Q_{p,rawboil,y}$	quantity of raw water boiled in the project scenario p per person per day
$Q_{p,leanboil,y}$	Quantity of safe water boiled in the project scenario p per person per day

2022 Project Emissions (for all VPAs)

$$0 = 0 * ((0.9 * 112) + 9.46) * 0.0156$$

Where:

$$GS11046: 0 = (1 - 0.03) * 1,280,685 * 0.0004 * (0 + 0)$$

$$GS11047: 0 = (1 - 0.03) * 854,844 * 0.0004 * (0 + 0)$$

$$GS11048: 0 = (1 - 0.03) * 164,519 * 0.0004 * (0 + 0)$$

$$GS11049: 0 = (1 - 0.03) * 7,891 * 0.0004 * (0 + 0)$$

2023 Project Emissions (for all VPAs)

$$0 = 0 * ((0.9 * 112) + 9.46) * 0.0156$$

Where:

$$\text{GS11046: } 0 = (1 - 0.03) * 247,772 * 0.0004 * (0 + 0)$$

$$\text{GS11047: } 0 = (1 - 0.03) * 272,833 * 0.0004 * (0 + 0)$$

$$\text{GS11048: } 0 = (1 - 0.03) * 299,909 * 0.0004 * (0 + 0)$$

$$\text{GS11049: } 0 = (1 - 0.03) * 232,468 * 0.0004 * (0 + 0)$$

Emission Reductions

$$\text{ER}_y = ((\Sigma \text{BE}_{b,y} - \Sigma \text{PE}_{p,y}) * \text{Up}_{,y} - \text{LE}_{p,y}) * (1 - \text{Xboil})$$

2022 Emission Reductions

$$\text{GS11046: } 4,420 = ((5,982 - 0) * 0.7389 - 0) * (1 - 0)$$

$$\text{GS11047: } 2,949 = ((3,992 - 0) * 0.7389 - 0) * (1 - 0)$$

$$\text{GS11048: } 566 = ((767 - 0) * 0.7389 - 0) * (1 - 0)$$

$$\text{GS11049: } 26 = ((36 - 0) * 0.7389 - 0) * (1 - 0)$$

2023 Emission Reductions

$$\text{GS11046: } 853 = ((1,155 - 0) * 0.7389 - 0) * (1 - 0)$$

$$\text{GS11047: } 941 = ((1,274 - 0) * 0.7389 - 0) * (1 - 0)$$

$$\text{GS11048: } 1,034 = ((1,400 - 0) * 0.7389 - 0) * (1 - 0)$$

$$\text{GS11049: } 801 = ((1,085 - 0) * 0.7389 - 0) * (1 - 0)$$

Where:

$\text{BE}_{b,y}$ Baseline emissions in baseline scenario b per year y

$\text{PE}_{p,y}$ Project emissions in project scenario p per year y

$\text{B}_{p,y}$ Quantity of firewood consumed in project scenario p per household

U_{py} Usage rate in project scenario p during year y

LE_{py} Leakage in project scenario p during year y

X_{boil} Expressed as a percentage, the portion of premises that in the absence of the project activity would have used non-GHG emitting technologies if they were available in the project boundary

The emissions reductions for the current monitoring period can be found in the corresponding Emission Reductions Calculations spreadsheet.

GS11046

2022 Emission Reductions			
Emissions Reductions			
Baseline emissions per year	$BE_{b,y}$	tCO ₂ /y	5,982
Project emissions per year	$PE_{p,y}$	tCO ₂ /y	0
Usage rate	$U_{p,y}$	fraction	0.7389
Leakage	$LE_{p,y}$	tCO ₂ /y	0
Total Emission Reductions	E_{ry}	tCO ₂ /y	4420

Suppressed Demand Assessment			
Percentage of suppressed demand users		percentage	100.00%
Percentage of <u>non</u> -suppressed demand users	X_{boil}	percentage	0.00%
Emission Reductions Corrected for Suppressed Demand	E_{ry}	tCO ₂ /y	4420

Capped Emission Reductions (daily cap)		tCO ₂ /y	4420
--	--	---------------------	------

2023 Emission Reductions			
Emissions Reductions			
Baseline emissions per year	$BE_{b,y}$	tCO ₂ /y	1,155
Project emissions per year	$PE_{p,y}$	tCO ₂ /y	0
Usage rate	$U_{p,y}$	fraction	0.7389
Leakage	$LE_{p,y}$	tCO ₂ /y	0
Total Emission Reductions	E_{ry}	tCO ₂ /y	853

Suppressed Demand Assessment			
Percentage of suppressed demand users		percentage	100.00%
Percentage of <u>non</u> -suppressed demand users	X_{boil}	percentage	0.00%
Emission Reductions Corrected for Suppressed Demand	E_{ry}	tCO ₂ /y	853

Capped Emission Reductions		tCO ₂ /y	853
----------------------------	--	---------------------	-----

GS11047

2022 Emission Reductions			
Emissions Reductions			
Baseline emissions per year	BEb,y	tCO2/y	3,992
Project emissions per year	PEp,y	tCO2/y	0
Usage rate	Up,y	fraction	0.7389
Leakage	LEp,y	tCO2/y	0
Total Emission Reductions	Ery	tCO2/y	2949

Suppressed Demand Assessment			
Percentage of suppressed demand users			100.00%
Percentage of non -suppressed demand users	Xboil	Percentage	0.00%
Emission Reductions Corrected for Suppressed Demand	Ery	tCO2/y	2949

Capped Emission Reductions (daily cap)		tCO2/y	2949
--	--	--------	------

2023 Emission Reductions			
Emissions Reductions			
Baseline emissions per year	BEb,y	tCO2/y	1,274
Project emissions per year	PEp,y	tCO2/y	0
Usage rate	Up,y	fraction	0.7389
Leakage	LEp,y	tCO2/y	0
Total Emission Reductions	Ery	tCO2/y	941

Suppressed Demand Assessment			
Percentage of suppressed demand users			100.00%
Percentage of non -suppressed demand users	Xboil	Percentage	0.00%
Emission Reductions Corrected for Suppressed Demand	Ery	tCO2/y	941

Capped Emission Reductions		tCO2/y	941
----------------------------	--	--------	-----

GS11048

2022 Emission Reductions			
Emissions Reductions			
Baseline emissions per year	BEb,y	tCO2/y	767
Project emissions per year	PEp,y	tCO2/y	0
Usage rate	Up,y	fraction	0.7389
Leakage	LEp,y	tCO2/y	0
Total Emission Reductions	Ery	tCO2/y	566

Suppressed Demand Assessment			
Percentage of suppressed demand users			100.00%
Percentage of non -suppressed demand users	Xboil	Percentage	0.00%
Emission Reductions Corrected for Suppressed Demand	Ery	tCO2/y	566

Capped Emission Reductions (daily cap)		tCO2/y	566
--	--	--------	-----

2023 Emission Reductions			
Emissions Reductions			
Baseline emissions per year	BEb,y	tCO2/y	1,400
Project emissions per year	PEp,y	tCO2/y	0
Usage rate	Up,y	fraction	0.7389
Leakage	LEp,y	tCO2/y	0
Total Emission Reductions	Ery	tCO2/y	1034

Suppressed Demand Assessment			
Percentage of suppressed demand users			100.00%
Percentage of non -suppressed demand users	Xboil	Percentage	0.00%
Emission Reductions Corrected for Suppressed Demand	Ery	tCO2/y	1034

Capped Emission Reductions		tCO2/y	1034
-----------------------------------	--	---------------	-------------

GS11049

2022 Emission Reductions			
Emissions Reductions			
Baseline emissions per year	BEb,y	tCO2/y	36
Project emissions per year	PEp,y	tCO2/y	0
Usage rate	Up,y	fraction	0.7389
Leakage	LEp,y	tCO2/y	0
Total Emission Reductions	Ery	tCO2/y	26

Suppressed Demand Assessment			
Percentage of suppressed demand users			100.00%
Percentage of non -suppressed demand users	Xboil	Percentage	0.00%
Emission Reductions Corrected for Suppressed Demand	Ery	tCO2/y	26

Capped Emission Reductions (daily cap)		tCO2/y	26
---	--	---------------	-----------

2023 Emission Reductions			
Emissions Reductions			
Baseline emissions per year	BEb,y	tCO2/y	1,085
Project emissions per year	PEp,y	tCO2/y	0
Usage rate	Up,y	fraction	0.7389
Leakage	LEp,y	tCO2/y	0
Total Emission Reductions	Ery	tCO2/y	801

Suppressed Demand Assessment			
Percentage of suppressed demand users			100.00%
Percentage of non -suppressed demand users	Xboil	Percentage	0.00%
Emission Reductions Corrected for Suppressed Demand	Ery	tCO2/y	801

Capped Emission Reductions		tCO2/y	801
-----------------------------------	--	---------------	------------

E.3. Calculation of leakage

In line with the monitoring requirements, a leakage assessment is conducted biennially and has therefore been included in this report. The potential sources of leakage listed in the methodology have been investigated, and addressed below:

a) The displaced baseline technologies are reused outside the project boundary in place of lower emitting technology or in a manner suggesting more usage than would have occurred in the absence of the project.

In all cases the baseline technologies displaced are three stones; these have no market value and are not a product as such. There is nothing limiting the use of three stone cooking across the country (the technology is lowest rung on the energy ladder and the price is zero), which is why this cooking method is so widespread. In any case the primary purpose of these three rocks is for cooking so they will not be replaced/displaced in their entirety as a result of this project - which means they will not be reused outside the project boundary. This leakage source can therefore be discounted.

b) The non-renewable biomass or fossil fuels saved under the project activity are used by non-project users who previously used lower emitting energy sources.

There is no evidence to suggest significant (if any) use of renewable energy for purifying water in the project region as found in the Baseline Water Surveys. Renewable energy used for purifying water would likely be animal dung or crop residues which will be used due to ease of availability/proximity to the home rather than due to a shortage of wood fuel, therefore it is an independent factor. This leakage source can therefore be discounted.

c) The project significantly impacts the NRB fraction within an area where other CDM or VER project activities account for NRB fraction in their baseline scenario.

The majority of participants collect wood from within the project boundary, it is not expected that the NRB in other areas will be affected. There are currently no other CDM or VER projects in the project area. This leakage source can therefore be discounted.

d) The project population compensates for loss of the space heating effect of inefficient technology by adopting some other form of heating or by retaining some use of inefficient technology.

The space heating effect of boiling water for purification purposes will be minimal, as the predominant use of baseline technology is for cooking. Therefore, it is highly unlikely that another technology will be used for heating when users no longer boil water. This leakage source can therefore be discounted.

e) By virtue of promotion and marketing of new technology with high efficiency, the project stimulates substitution within households who commonly used a technology with relatively lower emissions, in cases where such a trend is not eligible as an evolving baseline.

This project is not marketing efficient technology; it is eliminating the need for a fuel based technology to deliver pure water. Lower emission technology substitution within households is therefore not possible and this leakage source can therefore be discounted.

E.4. Calculation of net benefits or direct calculation for each SDG Impact

SDG	SDG Impact	Baseline estimate	Project estimate	Net benefit
3	By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.	People consuming safe or boiled water ¹	People consuming safe water (P _y)	Additional people consuming safe water (P _{safe})
		GS11046: 148	GS11046: 4,921	GS11046: 4,773
		GS11047: 161	GS11047: 5,351	GS11047: 5,190
		GS11048: 214	GS11048: 7,145	GS11048: 6,931
		GS11049: 225	GS11049: 7,513	GS11049: 7,288

¹ Baseline estimate was calculated using Project estimate (P_y) – Net benefit (P_{safe})

5	Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate. This is calculated through the amount of time saved collecting water and firewood.	2.3 hours collecting water (across all VPAs)	0.59 hours collecting water (across all VPAs)	1.71 hours reduction in time spent collecting water (across all VPAs)
6	By 2030, achieve universal and equitable access to safe and affordable drinking water for all. This is calculated through the additional number of persons having access to safe water	People already with access to safe water ² GS11046: 1,394 GS11047: 1,516 GS11048: 2,024 GS11049: 2,128	People gaining access to safe water (P _y) GS11046: 4,921 GS11047: 5,351 GS11048: 7,145 GS11049: 7,513	Additional people with access to safe water (P _{access}) GS11046: 3,527 GS11047: 3,835 GS11048: 5,121 GS11049: 5,385
13	Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized	GS11046: 5,273 GS11047: 3,890 GS11048: 1,600 GS11049: 827 tCO ₂ e emitted	GS11046: 0 GS11047: 0 GS11048: 0 GS11049: 0 tCO ₂ e emitted	GS11046: 5,273 GS11047: 3,890 GS11048: 1,600 GS11049: 827 Reduced emissions (tCO ₂ e)

² Baseline estimate was calculated using Project estimate (P_y) – Net benefit (P_{access})

communities. Calculated
throughout total project
emissions reductions

E.5. Comparison of actual SDG Impacts with estimates in approved PDD

SDG	Values estimated in ex ante calculation of approved PDD for this monitoring period	Actual values ³ achieved during this monitoring period
3	GS11046 – 6,984	GS11046 – 4,773
	GS11047 – 6,984	GS11047 – 5,190
	GS11048 – 6,984	GS11048 – 6,931
	GS11049 – 6,984	GS11049 – 7,288
	Number of additional persons consuming safe water across all VPAs	Number of additional persons consuming safe water
5	0.5 hours	1.71 hours
	Total reduction in time spent collecting water in year y (across all VPAs)	Total reduction in time spent collecting water in year y (across all VPAs)
6	GS11046 – 6,286	GS11046 – 3,527
	GS11047 – 6,286	GS11047 – 3,835
	GS11048 – 6,286	GS11048 – 5,121
	GS11049 – 6,286	GS11049 – 5,385
	Number of additional persons having access to safe water across all VPAs	Number of additional persons having access to safe water

³ Whenever emission reductions are capped, both the original and capped values used for calculations must be transparently reported. Use brackets to denote original values.

13	GS11046: 10,496	GS11046: 5,273
	GS11047: 10,496	GS11047: 3,890
	GS11048: 10,496	GS11048: 1,600
	GS11049: 10,496	GS11049: 827
	Emissions reductions for the monitoring period across all VPAs (tCO ₂ e)	Emissions reductions for the monitoring period (tCO ₂ e)
	Each VPA capped at 10,000 tCO ₂ e	Each VPA capped at 10,000 tCO ₂ e

E.5.1. Explanation of calculation of value estimated ex ante calculation of approved PDD for this monitoring period

SDG 3: Good Health and Wellbeing

$$P_{\text{safe}} = P_y * (1 - C_j) * (1 - P_{\text{b,boil}})$$

The parameters C_j and $P_{\text{b,boil}}$ are estimated using the baseline project survey and are fixed ex antes, as found in Section D.1. of the MR. In ex ante calculations, P_y (or X), user numbers are estimated based on data collected by field teams during project sensitisation. The actual figures are then obtained when collecting the borehole user lists, and therefore this number may differ from the estimated value.

SDG 5: Gender Equality

$$TR_y = T_{\text{b,y}} - T_{\text{p,y}}$$

The parameter $T_{\text{b,y}}$ is estimated using the baseline project survey and is a fixed ex ante (Section D.1. of the MR). In order to estimate the reduction in time collecting water (TR_y), the ex ante calculations assumed a 1.82 hour reduction for $T_{\text{p,y}}$. This parameter is monitored annually in the project survey.

SDG 6: Clean Water and Sanitation

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

In ex ante calculations, user numbers (P_y or X) are estimated based on data collected during project sensitisation by the field teams. The actual figures are then obtained when recording the borehole user lists, and therefore this number may differ from the ex-ante value. A 90% usage rate is assumed ahead of monitoring surveys taking place. This parameter is monitored annually in the usage survey. C_j is a fixed ex ante, found in Section D.1. of the MR.

SDG 13: Climate Action

The ex-ante calculations for SDG 13 use a mix of baseline monitored parameters, methodology caps and figures assumed ahead of data collection. The major difference between ex ante estimates and figures reported in the MR is the Usage rate, estimated at 90% in the ex-antes and measured to be 74%, and the Leakage ($LE_{p,y}$), estimated at 5% in the ex-antes and measured to be 0%.

E.6. Remarks on increase in achieved SDG Impacts from estimated value in approved PDD

SDG 3

The VPAs have fallen short against the estimated contributions to SDG 3. The lower figures can be attributed to user numbers as villages were less populated than estimated. Positive contributions to SDG 3 have still been achieved.

SDG 5

Positive achievements have been achieved during MP1, exceeding the estimated contributions to SDG 5 estimated in the PDD.

SDG 6

The VPAs have fallen short against the estimated contributions to SDG 6, due to low user numbers and the Usage Rate being lower than expected. Positive contributions to SDG 6 have still been achieved.

SDG 13

The SDG 13 achievements during MP1 fall short of the estimated contributions as all the boreholes were rehabilitated in batches and therefore on different dates. The estimations in the PDD were made for a fully functioning year, but some of the boreholes were only rehabbed a couple of months before the end of the monitoring period (such as for GS11049). This lowered the number of crediting days.

SECTION F. SAFEGUARDS REPORTING

Safeguarding principles	Assessment questions	Assessment of relevance to the project (Yes/potentially/no)	Justification	Monitoring
1 Human Rights	a. The Project Developer and the Project shall respect internationally proclaimed human rights and shall not be complicit in violence or human rights abuses of any kind as defined in the Universal Declaration of Human Rights. b. The Project shall not discriminate with regards to participation and inclusion.	No	The project will adhere to all human rights requirements including respecting internationally proclaimed human rights and Universal Declaration of Human Rights and will not discriminate in any way.	During all trainings, it will be emphasised that project beneficiaries should support vulnerable or less mobile community members to access water
2 Gender Equality and	The Project shall not directly or indirectly			SDG 5

Women's Rights	reinforce gender-based discrimination and shall not lead to/contribute to adverse impacts on gender equality and/or the situation of women. Specifically, this shall include (not exhaustive):			$T_{p,y}$ $TR_{,y}$ The time spent collecting wood fuel is monitored in the project survey. The project aims to reduce the burden on the whole community of traveling far to collect wood and in particular to women who perform the majority of unpaid domestic work.
	(a) Sexual harassment and/or any forms of violence against women – address the multiple risks of gender-based violence, including sexual exploitation or human trafficking. (b) Slavery, imprisonment, physical and mental drudgery, punishment or coercion of women and girls.	No No	The burden on the whole community of travelling far to collect water and gather firewood for water purification will be reduced. This will also mitigate the social isolation of spending a long time collecting these resources The project will decrease the drudgery by reducing time spent on water and firewood collection	

	(c)Restriction of women's rights or access to resources (natural or economic).	No	The project will increase women's access to resources such as water by making safe water available in the community. The project will increase women's ability to use, develop and protect natural resources by making safe water more readily available and enabling women to participate in project decision-making.	
	(d) Recognise women's ownership rights regardless of marital status – adopt project measures where possible to support to women's access to inherit and own land, homes, and other assets or natural resources.	No	The project will decrease the workload of women in collecting water and firewood, thereby allowing more time to engage in other activities.	
	Projects shall apply the principles of non-discrimination, equal treatment, and equal			

	pay for equal work, specifically: (a) Where appropriate for the implementation of a Project, paid, volunteer work or community contributions will be organised to provide the conditions for equitable participation of men and women in the identified tasks/activities.	Yes	Equal participation of women and men in decision making will be encouraged by promoting their equal membership on water point committees (WPCs). These WPCs will be trained to facilitate the participation of members depending on their specific circumstances. They will also assist all communities members to provide feedback on the project, regardless of their situation.	
	(b) Introduce conditions that ensure the participation of women or men in Project activities and benefits based on pregnancy, maternity/paternity	Yes	The project aims to benefit the whole community equally and women's equal participation in the LSC and water	

	leave, or marital status.		point committees is encouraged	
	(c) Ensure that these conditions do not limit the access of women or men, as the case may be, to Project participation and benefits.	Yes	The project will encourage equal participation of men and women.	
	3.2.3 The Project shall refer to the country's national gender strategy or equivalent national commitment to aid in assessing gender risks.	Yes	The analysis of the project is in line with the country gender strategy is in section A.8. of the PDD	
3 Community Health, Safety and Working Conditions	The Project shall avoid community exposure to increased health risks and shall not adversely affect the health of the workers and the community.	Yes	The project will reduce the community exposure to water borne illness through the provision of a safe water source, and will reduce the risk of household air pollution by removing the need for households to boil water for purification.	SDG 3, 6 and 13 Np,y Qp,y Qp,cleanboil,y Quality of Treated Water Psafe Paccess P,y Pp,y Incidences of water borne illnesses are monitored through the

				annual Monitoring Project Survey. A WASH programme is carried out by the project including WASH training at the beginning of the project, as well as subsequent WASH follow-up training
4.1 Sites of Cultural and Historical Heritage	Does the Project Area include sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture (e.g., knowledge, innovations, or practices)?	No	The project area does not include sites or structures of historic and cultural value. Project activities do not compromise historic, cultural or religious practices.	
4.2 Forced Eviction and Displacement	Does the Project require or cause the physical or economic relocation of peoples (temporary or permanent, full or partial)?	No	The project will not impact the physical or economic relocation of peoples. The focus of the project is rehabilitating and installing water point	

			infrastructure only.	
4.3 Land Tenure and Other Rights	Does the Project require any change to land tenure arrangements and/or other rights?	No	The project will not impact on land tenure arrangements or rights.	
4.4 Indigenous Peoples	Are indigenous peoples present in or within the area of influence of the Project and/or is the Project located on land/territory claimed by indigenous peoples?	No	The project will take place on land owned either by the county government or by local people for which their permission will first be sought.	
5 Corruption	The Project shall not involve, be complicit in or inadvertently contribute to or reinforce corruption or corrupt Projects.	No	The project shall ensure that all forms of corruption are avoided. Project beneficiaries are able to contact the project developer and implementer through the continuous grievance mechanism to report any form of corruption.	
6.1 Labour Rights	The Project Developer shall ensure that there is no forced labour and that all employment is in compliance with	No	The project will adhere to labour laws and requirements	

	national labour and occupational health and safety laws, with obligations under international law, and consistency with the principles and standards embodied in the International Labour Organization (ILO) fundamental conventions. Where these are contradictory and a breach of one or other cannot be avoided, then guidance shall be sought from Gold Standard. Child labour, as defined by the ILO Minimum Age convention is not allowed. The Project Developer shall use adequate and verifiable mechanisms for age verification in recruitment procedures. Exceptions are children for work on their families' property as long as: (a) Their compulsory schooling (minimum of 6 schooling years) is not hindered, AND	No	The projects will not use child labour	
--	---	----	--	--

	(b) The tasks they perform do not harm their physical and mental development, AND (c) The opinions and recommendations of an Expert Stakeholder shall be sought and demonstrated as being included in the project design.			
6.2 Negative Economic Consequences	Does the project cause negative economic consequences during and after project implementation, e.g., for vulnerable and marginalised social groups in targeted communities?	Yes	The project is not expected to have any negative economic impacts or cause any risks.	To ensure long term sustainability of the water points, and avoid unexpected breakdowns and spending, training was conducted at the beginning of the project on conducting minor maintenance. The project is expected to benefit all members of the community
7.1 Emissions	Will the Project increase greenhouse gas emissions over the Baseline Scenario?	Yes	The project will reduce greenhouse gas emissions compared to the baseline scenario.	SDG 13 The ERs are monitored during the MP. During this MP a large number of emission reductions were achieved

7.2 Energy Supply	Will the Project use energy from a local grid or power supply (i.e., not connected to a national or regional grid) or fuel resource (such as wood, biomass) that provides for other local users?	No	Only hand pumped boreholes that use no electricity are included in the project. The project will reduce fuel use due to reducing the need for water purification by boiling	
8.1 Impact on natural water patterns/flows	Will the Project affect the natural or pre-existing pattern of watercourses, ground-water and/or the watershed(s) such as high seasonal flow variability, flooding potential, lack of aquatic connectivity or water scarcity?	No	There will be no significant change in the volume of water consumed by the households.	
8.2 Erosion and/or water body instability	Could the Project directly or indirectly cause additional erosion and/or water body instability or disrupt the natural pattern of erosion?	No	The water is taken from boreholes at household usage levels. Therefore it is extremely unlikely that there will be additional erosion and/or water body instability or disruption of the natural pattern of erosion.	
9.1 Landscape	Does the Project involve the use of	No	No crops or other products will be	

modification and soil	land and soil for production of crops or other products?		produced in the project.	
9.2 Vulnerability to Natural Disaster	Will the Project be susceptible to or lead to increased vulnerability to wind, earthquakes, subsidence, landslides, erosion, flooding, drought or other extreme climatic conditions?	No	There will be no impact by the project to natural disasters.	
9.3 Genetic Resources	Could the Project be negatively impacted by the use of genetically modified organisms or GMOs (e.g., contamination, collection and/or harvesting, commercial development)?	No	No GMOs will be used in the project and the boreholes would not be affected by GMOs as they are all protected.	
9.4 Release of pollutants	Could the Project potentially result in the release of pollutants to the environment?	No	As safe ground water is used, there is no risk or releasing pollutants to the environment.	
9.5 Hazardous and Non-hazardous Waste	Will the Project involve the manufacture, trade, release, and/ or use of hazardous and non-hazardous chemicals and/or materials?	No	The project does not deal with hazardous or non-hazardous chemicals and/or materials.	
9.6 Pesticides and fertilizers	Will the Project involve the application	No	No pesticides and/or fertilisers	

	of pesticides and/or fertilisers?		will be used in the project.	
9.7 Harvesting of forests	Will the Project involve the harvesting of forests?	No	As the project reduces the consumption of firewood, there is a positive impact on forests.	
9.8 Food	Does the Project modify the quantity or nutritional quality of food available such as through crop regime alteration or export or economic incentives?	No	The project has no impact on the quantity or nutritional quality of food.	
9.9 Animal Husbandry	Will the Project involve animal husbandry?	No	The project will not involve animal husbandry.	
9.10 High Conservation Value Areas and Critical Habitats	Does the Project physically affect or alter largely intact or High Conservation Value (HCV) ecosystems, critical habitats, landscapes, key biodiversity areas or sites identified?	No	The project rehabilitates water points and decreases the consumption of firewood, having a positive impact on conserving forest ecosystems.	
9.11 Endangered Species	Are there any endangered species identified as potentially being present within the Project boundary (including those that may route through the area)?	No	The project is not envisaged to have any impact on their habitat as it only affects borehole infrastructure.	
	Does the Project potentially impact	No	The project only impacts borehole	

	other areas where endangered species may be present through transboundary affects?		infrastructure and does not impact other areas where endangered species are present.	
--	--	--	--	--

SECTION G. STAKEHOLDER INPUTS AND LEGAL DISPUTES

G.1. List all Inputs and Grievances which have been received via the Continuous Input and Grievance Mechanism together with their respective responses/mitigations.

No inputs or grievances were received during the monitoring period.

G.2. Report on any stakeholder mitigations that were agreed to be monitored.

No stakeholder mitigations were agreed to be monitored during the monitoring period.

G.3. Provide details of any legal contest that has arisen with the project during the monitoring period

No legal contests or disputes arose during the monitoring period.

Revision History

Version	Date	Remarks
1.1	14 October 2020	Hyperlinked section summary to enable quick access to key sections Improved clarity on Key Project Information Section for POA monitoring Forward action request section Improved Clarity on SDG contribution/SDG Impact term used throughout Clarity on safeguard reporting Clarity on design changes Leakage section added for VER/CER projects Addition of Comparison of monitored parameters with last monitoring period Provision of an accompanying Guide to help the user understand detailed rules and requirements
1.0	10 July 2017	Initial adoption