Gold Standard for the Global Goals

TEMPLATE

KEY PROJECT INFORMATION & VPA DESIGN DOCUMENT (PDD)

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VERSION **v. 1.1**

RELATED SUPPORT

- **TEMPLATE GUIDE Key Project Information & Project Design Document v.1.1**

This document contains the following Sections

Key Project Information

SECTION A – Description of project

SECTION B - Application of approved Gold Standard Methodology (ies) and/or demonstration of SDG Contributions

SECTION C – Duration and crediting period

SECTION D – Summary of Safeguarding Principles and Gender Sensitive Assessment

SECTION E – Summary of Local stakeholder consultation

Appendix 1 – Safeguarding Principles Assessment (mandatory)

Appendix 2 - Contact information of VPA Implementer(mandatory)

Appendix 3 - Summary of Approved Design Changes (project specific)

KEY PROJECT INFORMATION

GS ID of Project	GS11046 GS11047 GS11048 GS11049 GS11050 GS11051 GS11083 GS11084 GS11085 GS11086 GS11087 GS11088 GS11089 GS11090 GS11091 GS11092 GS11093 GS11094 GS11095 GS11096
Title of Project	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) GS1247 VPA 270 - Burkina Faso Safe Water (GS11050) GS1247 VPA 271 - Burkina Faso Safe Water (GS11051) GS1247 VPA 287 - Burkina Faso Safe Water (GS11083) GS1247 VPA 288 - Burkina Faso Safe Water (GS11084) GS1247 VPA 289 - Burkina Faso Safe Water (GS11085) GS1247 VPA 290 - Burkina Faso Safe Water (GS11086) GS1247 VPA 291 - Burkina Faso Safe Water (GS11087) GS1247 VPA 292 - Burkina Faso Safe Water (GS11088) GS1247 VPA 293 - Burkina Faso Safe Water (GS11089) GS1247 VPA 294 - Burkina Faso Safe Water (GS11090) GS1247 VPA 295 - Burkina Faso Safe Water (GS11091) GS1247 VPA 296 - Burkina Faso Safe Water (GS11092) GS1247 VPA 297 - Burkina Faso Safe Water (GS11093) GS1247 VPA 298 - Burkina Faso Safe Water (GS11094) GS1247 VPA 299 - Burkina Faso Safe Water (GS11095) GS1247 VPA 300 - Burkina Faso Safe Water (GS11096)
Time of First Submission Date	03/03/2021, 12pm
Date of Design Certification	-
Version number of the VPA-DD	4

Completion date of version	21/07/2021
Coordinating/managing entity	CO2balance UK Ltd
VPA Implementer (s)	CO2balance UK Ltd
Project Participants and any communities involved	CO2balance UK Ltd is acting as project participant. Communities involved will be those without or with limited access to improved water sources before the project implementation across the Nord region of Burkina Faso
Host Country (ies)	Burkina Faso
GS ID and Title of applicable Design Certified VPA	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) GS1247 VPA 270 - Burkina Faso Safe Water (GS11050) GS1247 VPA 271 - Burkina Faso Safe Water (GS11051) GS1247 VPA 287 - Burkina Faso Safe Water (GS11083) GS1247 VPA 288 - Burkina Faso Safe Water (GS11084) GS1247 VPA 289 - Burkina Faso Safe Water (GS11085) GS1247 VPA 290 - Burkina Faso Safe Water (GS11086) GS1247 VPA 291 - Burkina Faso Safe Water (GS11087) GS1247 VPA 292 - Burkina Faso Safe Water (GS11088) GS1247 VPA 293 - Burkina Faso Safe Water (GS11089) GS1247 VPA 294 - Burkina Faso Safe Water (GS11090) GS1247 VPA 295 - Burkina Faso Safe Water (GS11091) GS1247 VPA 296 - Burkina Faso Safe Water (GS11092) GS1247 VPA 297 - Burkina Faso Safe Water (GS11093) GS1247 VPA 298 - Burkina Faso Safe Water (GS11094) GS1247 VPA 299 - Burkina Faso Safe Water (GS11095) GS1247 VPA 300 - Burkina Faso Safe Water (GS11096)
GS ID and Title of applicable Performance Certified VPA	N/A
Activity Requirements applied	☒ Community Services Activities ☐ Renewable Energy Activities ☐ Land Use and Forestry Activities/Risks & Capacities ☐ N/A
Scale of the project activity	☒ Micro scale ☐ Small Scale ☐ Large Scale

Other Requirements applied	N/A
Methodology (ies) applied and version number	TPDDTEC version 3.1.
Product Requirements applied	☒ GHG Emissions Reduction & Sequestration ☐ Renewable Energy Label ☐ N/A
Project Cycle:	☒ Regular ☐ Retroactive

Table 1 – Estimated Sustainable Development Contributions

SDG contributions per homogenous VPA:

Sustainable Development Goals Targeted	SDG Impact (defined in B.6)	Estimated Annual Average	Units or Products
3 Good Health and Well-being	Reduced incidence of stomach related diseases/illness associated with unsafe water e.g. diarrhoea	6984	people
5 Gender Equality	Time saved collecting water	0.5	hours
6 Clean Water and Sanitation	Additional number of persons having access to safe water	6286	people
13 Climate Action (mandatory)	Total project emissions reductions	10,000 (capped)	tCO2e

SECTION A. DESCRIPTION OF PROJECT

A.1 Purpose and general description of project

This microscale VPA is eligible under the Gold Standard methodology Technologies and Practices to Displace Decentralized Thermal Energy Consumption Version 3.1. The project will support the provision of safe water using safe water technology to hundreds of households within the Nord region of Burkina Faso. 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.

Nord region is a largely rural area, local people typically use wood fuel on inefficient three stone fires to purify their drinking, cleaning and washing water. 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 points were established by the government, community groups or community-based organizations (CBOs) and have fallen into disrepair because maintenance programmes have been poorly managed, or proven too expensive. CO2balance UK Ltd will be working in partnership with the NGO, Transform Burkina. CO2balance UK Ltd and Transform Burkina will work with communities across Nord region to identify broken down safe water points and rehabilitate them so that they deliver clean, safe water. The capacity of communities to maintain their water points will also be supported through the project to ensure that the water keeps flowing. The water points included under the project will be powered entirely by emission-free technologies such as hand-powered pumps.

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, however, the exact number is to be determined. CO2balance UK Ltd and Transform Burkina will rehabilitate the water points and deliver the maintenance programme for all the water points included in the project activity to ensure that the quality of the water delivered by the water points is fit for human consumption for the entire length of the project, which will be a minimum of five years.

The project is funded by marketing the anticipated carbon credits from the wood savings to ethical investors, so water point owners must agree to transfer the emissions reductions over to CO2balance UK Ltd 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.

A.1 Purpose and general description of project

A.1.1 Eligibility of the project under approved PoA

This VPA is located in Burkina Faso, an LDC and therefore eligible under GS1247 Improved Kitchen Regimes Multi-Country PoA. This PoA underwent Design Change in 2020/2021 to include Burkina Faso in the list of countries, therefore v11 of the PoA-DD is applicable to these homogenous VPAs.

By providing safe water through the rehabilitation of non-functioning boreholes, the project will ensure that households consume less firewood by displacing the need to boil water for purification. This will result in a reduction of carbon dioxide emissions. This is eligible under PoA GS1247 as it involves the 'installation and/or repair of community wide safe water supply technologies such as hand-pumped boreholes' as listed in section A.1 of the PoA-DD.

This microscale project is eligible under the Gold Standard Methodology: Technologies and Practices to Displace Decentralized Thermal Energy Consumption Version 3.1. By providing safe water through the rehabilitation of broken water points, the project will ensure that households consume less firewood by displacing the need to boil water for purification. This will result in a reduction of carbon dioxide emissions.

Eligibility criteria as per section 3.1.1 of GS4GG Principles & Requirements:

No.	Eligibility Criterion	Description/ Required condition	Means of Verification/Supporting evidence for inclusion
(a)	Types of Project	Eligible Projects shall include physical action/implementation on the ground. Pre-identified eligible Project types are identified in the Eligibility Principles and Requirements section.	This project involves the installation/rehabilitation of safe water sources. The project type is eligible under Community Services Activity Requirements s3.1.1(b) and s3.1.1(d).
(b)	Location of Project	The host country and location of each VPA will be specified in each VPA-DD, in line with the locations outlined in Section A.2.	The host country is Burkina Faso and project area is Nord Region. This is clearly defined in Section A.2, in line with the locations outlined in Section A.3 of the PoA-DD.

(c)	Project Area, Project Boundary and Scale	The Project Area and Project Boundary shall be defined. Projects may be developed at any scale although certain rules, requirements and limitations may apply under specific Activity Requirements, Impact Quantification Methodologies and Products Requirements. In order to avoid double counting the Project shall not be included in any other voluntary or compliance standards programme unless approved by Gold Standard (for example through dual certification). Also, if the Project Area overlaps with that of another Gold Standard or other voluntary or compliance standard programme of a similar nature, the project shall demonstrate that there is no double counting of impacts at design and performance certification (for example use of similar technology or practices through which the potential arises for double counting or misestimation of impacts amongst projects).	This project will take place within Nord Region of Burkina Faso. This is clearly defined in Section A.2 with a table of GPS coordinates and maps to define the project boundary. Each homogenous VPA included in this project are not included in any other carbon standard and will not exceed the 10,000 VERs per year cap, as defined in section A.4.
(d)	Host Country Requirements	Projects shall be in compliance with applicable Host Country's legal, environmental, ecological and social regulations.	Each homogenous VPA included in this project will comply with Burkina Faso's national policies revolving around water access, rural water infrastructure, community engagement, women empowerment and climate change action, for example: The National Programme for Water Supply 2016-2030 (PN-AEP) Ministry of Water and Sanitation (MEA) Government of Burkina Faso Burkina Faso's National Gender Policy – PNG (adopted 2009) Burkina Faso: National climate change adaptation plan (NAP) (published 2015)
(e)	Contact Details	As part of the Project Documentation the Project Developer shall provide (i) name and (ii) contact details of all Project Participants; AND in case of an organisation (iii) the legal registration details and (iv) documentation by the governing jurisdiction that proves that the entity is in good standing (defined as being a legal or other appropriate entity registered in or allowed to operate within the required jurisdiction and with no evidence of insolvency or legal/criminal notices placed against it or any of its Directors). Gold Standard retains the right (at its own discretion) to refuse	Contact details have been provided within this VPA-DD in Appendix 2.

		use of the Standard where reputational concerns are highlighted.	
(f)	Legal Ownership	Full and uncontested legal ownership of any Products that are generated under Gold Standard Certification, (for example carbon credits) shall be demonstrated. Where such ownership is transferred from project beneficiaries this must be demonstrated transparently and with full, prior and informed consent (FPIC). Note that for certain Project types there is a requirement for full and uncontested legal land title/tenure to be demonstrated. These are contained within specific Activity or Product Requirements. All projects shall immediately report to Gold Standard any land title/tenure disputes arising.	At the point of technology installation, a CTF will be signed and uploaded to our database stating that the rights to the carbon credits will lie with CO2balance. An elected representative from each water resources committee responsible for a borehole will sign a CTF on behalf of all users thereof. A CTF will be signed for every borehole rehabilitated and included under this project. There are no disputes or contested rights that have been identified in relation to legal land title/tenure rights relevant to the project activity. CO2balance UK Ltd will declare any land title/tenure disputes to Gold Standard immediately and resolve them prior to further implementation in affected areas.
(g)	Other Rights	As well as legal title and ownership, the Project Developer shall also demonstrate where required uncontested legal rights and/or permissions concerning changes in use of other resources required to service the Project (for example, access rights, water rights etc.). Any known disputes or contested rights must be declared immediately to Gold Standard by the Project Developer and resolved prior to further Project implementation in affected areas.	There are no disputes or contested rights that have been identified in relation to rights relevant to the project activity. Should any arise, CO2balance UK Ltd will declare any disputes/contested rights to Gold Standard immediately and resolve them prior to further implementation in affected areas.
(h)	Official Development Assistance (ODA) Declaration	All Project Developers applying for project activities located in a country named by the OECD Development Assistance Committee's ODA recipient list and seeking Gold Standard Certification for carbon credits shall declare the Official Development Assistance (ODA) support. The Project Developer shall follow the GHG Emissions Reduction & Sequestration Product Requirements and submit the declaration at the time of Design Certification.	A declaration of non-use of ODA has been completed and submitted covering each VPA part of this project, confirming that there is no diversion of ODA for any VPA under this Project. CO2balance UK Ltd will follow the GHG Emissions Reduction and Sequestration Product Requirements.

Criteria demanded from PoA Re-Validation Review

(i)	Factor of Non-Renewable Biomass	Reference from where fNRB shall be calculated for VPAs shall be included in the eligibility	The fNRB values will be taken, where possible, from default

		criteria to avoid confusion at the time of VPA inclusion and for consistency	values provided by CDM and Gold Standard. It is noted in time for verification an fNRB value will be calculated in accordance with TPDDTEC v3.1 Annex 1. See parameter box in B.7.1.
(j)	Test for Wb,y parameter	The test for fixed parameter Wb,y is based on the water boiling test.	The VPAs are applying Option 1 of section 2.1 of the 'Application of TPDDTEC Methodology to Safe Water Supply Projects' rule update, which allows application of the default values for parameters Wb,y and Wp,y, i.e., woody biomass: 0.4 kg/l See parameter box in B.6.2.
(k)	Water Project Treatment Capacity	The treatment capacity limits of project technology/source are required to be monitored to ensure that the water consumption level applied for emission reductions must not be greater than the treatment capacity of the project technology/sources.	Treatment capacity calculations shall be provided at each verification and water consumption will be capped where data exceeds calculated treatment capacity.
(l)	Cookstove Project Theoretical Savings	The theoretical wood savings from a cook stove project shall be estimated based on following- Py = Bb,y * (1-ηb/ηp,y) Py - quantity of firewood consumed in project Bb,y - quantity of firewood consumed in baseline ηb – efficiency of baseline technology ηp,y – efficiency of project technology	N/A
(j)	Double Counting	Conditions to confirm that VPAs are neither registered as CDM project activities, included in another registered PoAs, nor the project activities that have been deregistered.	PP will confirm that VPAs are not registered anywhere else, with the submission of unique IDs for each technology (described below) and GPS coordinates of the project boundary. See Section A.2.
(k)	Technical Specification	Specification of the technology/measure, such as the level and type of service, as well as performance specification based on, inter alia, testing/certification.	Technical capacities of the typical borehole models that can be included under these homogenous VPAs are detailed in Section A.3 informed by the Rural Water Supply Network (RWSN).
(l)	Start Dates	Conditions to check the start dates of VPAs through documentary evidence.	The start date of projects will be confirmed by carbon transfer forms, repair confirmation forms. See section C.1.1.

(m) Applicability	Conditions to ensure compliance with the applicability of the applied methodologies, the applied standardized baselines and the other applied methodological regulatory documents.	Section B demonstrates the applicability and compliance of the VPAs to the applied methodology (TPDDTEC v3.1), Annex 3 'Application of the methodology to safe water supply project' and establishment of the baseline to apply to all homogenous VPAs under this project. Where necessary, some parameter boxes throughout Sections B.6.2 and B.7.1 state how each meet the requirements of TPDDTEC v3.1.
(n) Additionality	Conditions to ensure that VPAs meet the requirements for demonstration of additionality.	This project and its homogenous VPAs are within Burkina Faso, an LDC listed under section A.3 of the PoA-DD (v11) therefore is deeded additional. See Section B.5.
(o) LSC and EIA	Conditions related to undertaking local stakeholder consultation and environmental impact analysis.	See Section E.
(p) Target Group	Target group (e.g. domestic/commercial/industrial, rural/urban, grid-connected/off-grid), and where applicable, distribution mechanisms (e.g. direct installation).	The homogenous VPAs under this project will involve the repair and rehabilitation of boreholes that supply water to households currently boiling water as a treatment method (taking into account suppressed demand). These boreholes are used under domestic situation, supplying water to households in rural communities. None of the boreholes rehabilitated as part of this project will be powered by greenhouse gases energy. Distribution mechanism: Direct installation/rehabilitation. Suppressed demand will be determined through a set of questions in the baseline 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. The suppressed demand value was

		determined by multiplying the percentage of the total users who do not treat their water in the baseline scenario by the proportion of those that would do so in a non-GHG polluting method if they had the means. This therefore determines the percentage of the total sample that would use non-GHG emitting technologies to purify their water if they had the means. For reference of the calculation and figure, see Baseline Survey, Report Sheet, Q18-Q21 and the Report and Key Parameters tab.
(q) Sampling	Sampling approaches are set out in each VPA and will follow the TPDDTEC v3.1 methodology.	Section B.7.2 states the Sampling Plan. Section B.4 states the baseline sampling procedure followed.
(r) Crediting Period	All VPAs submitted for inclusion after the first crediting cycle of such PoA and completion of transition to GS4GG shall follow the GS4GG Certification Cycle (i.e. 5 years renewals.	Set out in Section C.
(s) Prior Consideration	Demonstration of prior consideration of revenues from Gold Standard certification are required in the following circumstances: (a) Regular projects are exempt from any kind of prior consideration of revenues from Gold Standard certification checks (b) Retroactive projects shall submit the required documents for preliminary review (time of first submission) within one year of the project start date. (c) The prior consideration rule is also applicable to a Project that undergoes a design change. A project with a Certified Design requesting to include a new technology/measures shall submit the request for approval of design change to Gold Standard within one year of the start date of the proposed technology/measures (design change component).	All VPAs under this project are regular VPAs. Regular VPAs are except from any kind of prior consideration of revenues from Gold Standard certification checks. The start date of projects will be confirmed by carbon transfer forms, repair confirmation forms. See section C.1.1.

The project is in line with the Community Service Activity Requirements, in line with the PoA-DD (v11), this is demonstrated in the table below:

Community Services Activity Requirements

Requirements relevant to this VPA.	Demonstration of meeting Requirements
1.1 Eligible Project Types and Scope	
1.1.1) Projects shall lead to climate change mitigation and/or adaption by providing or improving access to services/resources at household or community or institution level. Eligible services include electricity and energy, water and sanitation, waste management, housing, etc.	By providing a safe water source in rural communities, the project improves access to safe water services/resources at community level. As such, the project is an Eligible Project Type in line with the requirements.
1.1.2) In relation to the above all Projects shall therefore confirm to Gold Standard for the Global Goals Principles & Requirements (and associated documents)	The project conforms with the Principles and Requirements detailed in the document. The project is eligible under Section 4, Principle 1, section (a) of the Principles and Requirements as it follows an established Gold Standard methodology. Concerning point 4.1.7, the project does not support geoengineering or entail energy production from fossil fuels or nuclear. Rather it supports a switch away from polluting technologies to an emissions-free means of accessing safe water.
1.2 General Eligibility Criteria	
1.2.2 Types of Project – b) End-Use Energy Efficiency: Project activities that reduce energy requirements as compared to baseline scenario without affecting the level and quality of services or products where the end user of the products and services are clearly identified and when the physical intervention is required at the user end. For example, efficient cooking, heating, lighting, etc.	By providing safe water, the safe water Project activities reduces the energy requirements compared to the baseline scenario by ensuring that households consume less firewood through no longer needing to purify their water.
1.2.3 Project Area, Boundary and Scale Project Area and Boundary shall be defined in line with the applicable Methodologies or Product Requirements. Projects are eligible under the microscale scheme if the annual emission reductions achieved are limited to a maximum of 10,000 tonnes of CO2eq in each and every year of the crediting period.	The project area and boundary are defined in line with the applicable Methodology, outlined in Section A.2. The Projects are Micro-Scale Project as the annual issuance of each VPA is capped at 10,000 tCO2e per year.
1.2.4 Legal ownership Projects involving the distribution of a large number of devices for services such as heating, cooking, lighting, electricity generation, water treatment technology such as water filter etc. shall provide a clear description of the ownership of the Products that are generated under Gold Standard Certification all along the investment chain. In line with FPIC requirement, the proofs that	CO2balance UK Ltd is the Co-ordinating/Managing Entity which communicates with the Gold Standard; the project is managed in the Host Country by Project Implementer and/or its partners. Project Implementer have legal ownership of the carbon credits produced as result of the project. Water points are managed by

end-users are aware of and willing to give up their rights on Products shall be provided.	communities, who are recognised as the main users of the water points in the project. At the point of technology installation, a Carbon Transfer Form (CTF) will be signed and uploaded to our database stating that the rights to the carbon credits will lie with CO2balance UK Ltd. An elected representative from each water resources committee responsible for a borehole will sign a CTF on behalf of all users thereof. The transfer of ownership shall be discussed during the local stakeholder consultation conducted by CO2balance UK Ltd and Transform Burkina, presenting the details of the project to the local community members, officials and Community Leaders who attend.
1.2.5 The transfer of Product ownership shall be discussed during the local stakeholder consultations for regular cycle projects.	See Section E.
1.2.7 Where Gold Standard methodologies allow for a Suppressed Demand baseline scenario, this shall be limited to Small and Microscale Projects. Where a Suppressed Demand baseline is applied, it is not possible to 'stack' Gold Standard Impact Statements or Products as the definition of baseline may be contradictory.	The VPAs under this PoA are Micro-Scale Project and are therefore eligible for suppressed demand in the baseline scenario. The baseline scenario is assessed in terms of suppressed demand. Supressed demand is determined through a set of questions in the Baseline Project Survey that establish the method that 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. 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. No Gold Standard Certified Impact Statements or Products are intended to be stacked in case of suppressed demand baseline.

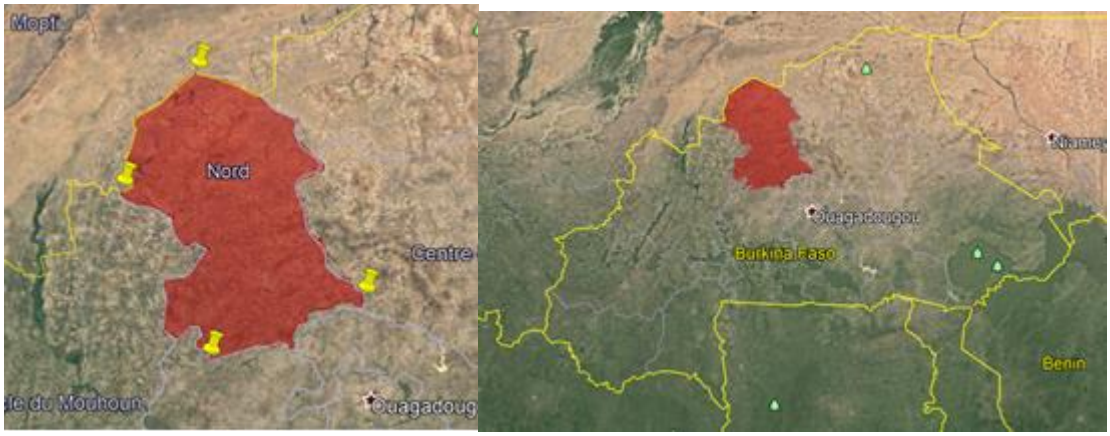
A.1.2. Legal ownership of products generated by the project and legal rights to alter use of resources required to service the project

CO2balance UK Ltd is the Co-ordinating/Managing Entity which communicates with the Gold Standard; the project is managed in the Host Country by Transform Burkina. In agreement with Transform Burkina, CO2balance UK Ltd have legal ownership of the carbon credits produced as result of the project. Both parties maintain the right to operate the projects in the host country, Burkina Faso. Water points are managed by communities, who are recognised as the main users of the water points in the project. The project will ensure that it complies with the host countries' legal, environmental, ecological and social regulations. There are no disputes or contested rights that have been identified in relation to rights relevant to the project activity.

At the point of technology installation/repair, a Carbon Transfer Form (CTF) will be signed and uploaded to our database stating that the rights to the carbon credits will lie with CO2balance UK Ltd. An elected representative from each WASH committee person responsible for a water point will sign a CTF on behalf of all users thereof.

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 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 woodfuel 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 001). 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 included within this VPA will be collected and documented for verification.

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

A.3 Technologies and/or measures

In this project, identified water points will be installed or rehabilitated so that they deliver clean, safe water for human consumption which contributes positively to SDG 6. Likewise, the reduction in local water-borne diseases is predicted to decrease the incidence of stomach related illnesses and diarrhoea, contributing positively to SDG 3. Many existing water points are owned by community groups or community-based organizations (CBOs) and have fallen into disrepair because maintenance programmes have been poorly managed, or proven too expensive.

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. 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.

Every community with a borehole will have the contact details (phone number and email) of the local in-country partner so they can contact them to report a problem with the project in general or their borehole as soon as possible. The local partner will engage appropriate action to solve the problem, either by visiting

the community/boreholes themselves to undertaken minor maintenance or for a more complex problem, engaging a local technician to visit and assess the borehole. The local partner is active across Burkina Faso doing widespread safe water projects, and therefore has a good relationship with suppliers of spare borehole parts. As such, spare parts when required will be purchased on a need-to-basis as they are locally available.

The water points are usually located close to villages, and offer a reliable safe water source. Once repaired, it is predicted that women's time spent collecting water, and their time spent collecting wood fuel for boiling water for purification will be reduced, contributing positively to SDG 5. As mentioned above, the project location is a largely rural district where people typically use wood fuel on traditional three stone fires in order to purify their drinking water by boiling. The rehabilitation/ installation of water points proposes to displace the need to boil water by providing safe water from the source. This will achieve a reduction in GHG emissions and aligns with SDG 13.

Water Point Technology

Borehole/Hand pump:

An example of the borehole technology in Burkina Faso that will be renovated as part of the project is the Afridev Hand Pumps as shown below. Other hand pump models that utilise 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 andIndia Mark III. The project is not limited to any particular hand pump, boreholes will be rehabilitated according to local needs.

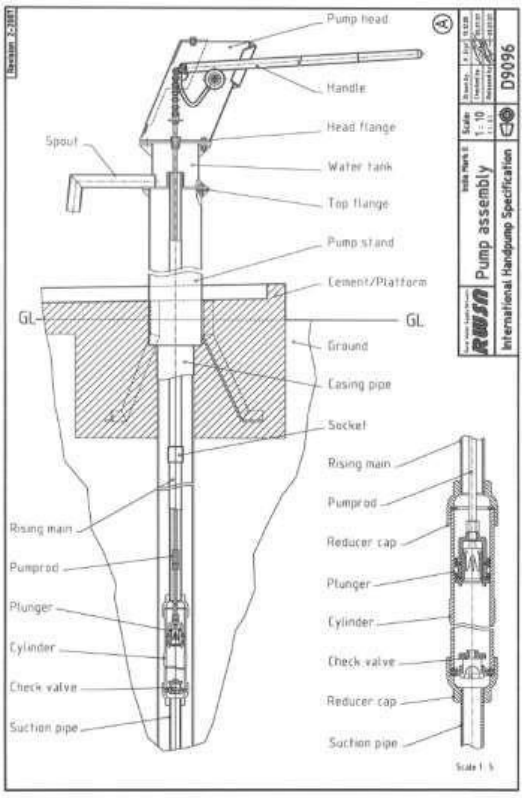
1)Afridev Hand Pump
The Afridev Hand Pump is a public domain pump that is reliable and popular with the communities. It is designed for heavy-duty use, serving communities of up to 300 persons.

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)India Mark II

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 Hand Pump[2]:



Rural Water Supply Network (2018) 'India Mark II' (http://www.rural-water-supply.net/en/implementation/public-domain-handpumps/india-mark-ii)

Technical Specifications:

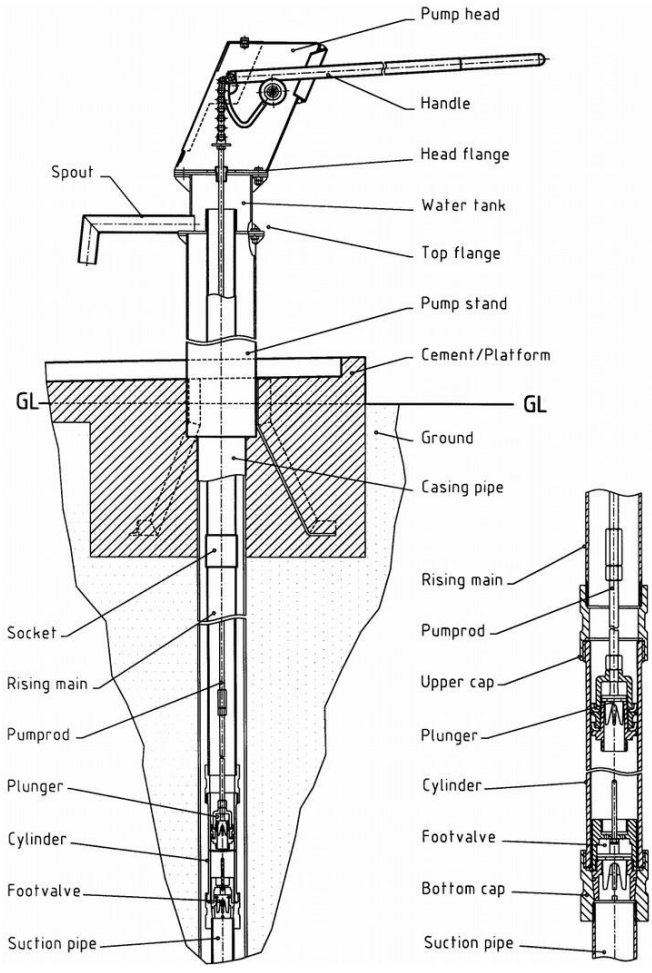
	India Mark II
Cylinder Diameter (mm)	63.5
Maximum Stroke (mm)	125
Approx. discharge at about 75 watt input (m3/h)	at 10 m head 1.8
	at 15 m head 1.3
	at 20 m head 1.0
	At 25 m head 0.9
	at 30 m head 0.8
Pumping Lift (m)	10-50

Water Consumption (litres per capita)	15-20
Source	https://www.rural-water-supply.net/en/implementation/public-domain-handpumps/india-mark-ii

3)India Mark III

The India Mark III Pump is a public domain pump defined by Indian Standards and RWSN specifications. This pump requires special skills for installation and has good potential for community based maintenance. It is designed for heavy-duty use, serving communities of 300 persons.

The India Mark III has similar configurations as the India Mark II, only the “down-hole components” were changed in order to improve the village level maintenance. The most important improvement is the “open top cylinder”, which makes it possible to remove the plunger and also the foot valve without lifting the cylinder and the entire rising main (Ø 65 GI pipe). Cylinders are available in Ø50 mm and Ø62.5 mm.



Technical data

Depths for use,	
Ø63.5 mm cyl.:	between 10-30 m
Ø50 mm cyl.;	between 10-50 m
Max. Stroke:	125 mm
Approx. discharge (75 watt input, Ø63.5 mm cylinder):	
at 10 m head:	1.8 m^3/hour,
at 15 m head:	1.3 m^3/hour,
at 20 m head:	1.0 m^3/hour,
at 25 m head:	0.9 m^3/hour,
at 30 m head:	0.8 m^3/hour,
Pumping lift:	10 - 50 m,
Population served:	~ 300 people,
Households:	30 – 50 hh,
Asumed water consumption:	15 - 20 lt/per capita
Type of well:	borehole or dug well.
Source	https://www.rural-water-supply.net/en/implementation/public-domain-handpumps/india-mark-iii

Type	Pumping Lift (m)	Water Consumption (lpcd)	Population Served	Evidence
India Mark II	10-50	15-20	300	https://www.rural-water-supply.net/en/implementation/handpump-overview/139-india-mark-ii
India Mark III	10-50	15-20 lt/per capita	300	https://www.rural-water-supply.net/en/implementation/public-domain-handpumps/india-mark-iii
Afridev	10-45	15-20 lt/per capita	300	https://www.rural-water-supply.net/en/implementation/public-domain-handpumps/afridev

A technical assessment will be conducted on identified non-functioning boreholes in the project area that are eligible to be considered for inclusion in the project. This assessment will be conducted by certified borehole technicians to professionally and accurately inform the assessment. The assessment will include recording the number of users per borehole and past functioning of each borehole, including if it delivered sufficient water to meet the needs of the number of users when functional. If water shortages are recorded, those boreholes will be excluded from the final selection to be included in the project.

A.4 Scale of the project

This VPA and the other homogenous VPAs are considered as micro-scale VPAs. Emission reductions achieved by each one of the activities considered under the micro-scale programme are limited to a maximum of 10,000 tonnes of CO2e in any year of their crediting period.
At the point of Design Certification, no boreholes have been rehabilitated. The number of boreholes to be rehabilitated under this VPA is approximately 24.

A.5 Funding sources of project

There is no public or ODA funding for this project activity, all revenue for the project will be derived from the sales of VERs.

SECTION B. APPLICATION OF APPROVED GOLD STANDARD METHODOLOGY (IES) AND/OR DEMONSTRATION OF SDG CONTRIBUTIONS

B.1. Reference of approved methodology (ies)

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

B.2. Applicability of methodology (ies)

In accordance with the Gold Standard Methodology: Technologies and Practices to Displace Decentralized Thermal Energy Consumption Version 3.1, micro scale VPAs listed in the Nord region boundaries adhere to the following conditions:

Methodology Requirement	**Project**
1. 'The project boundary can be clearly identified, and the technologies counted in the project are not included in another voluntary market or CDM project activity.	The project area (Nord Region of Burkina Faso) has been clearly demarcated using political boundaries recognized in Burkina Faso. Each technology will be recorded using GPS coordinates and individually tagged with an identification code which is stored securely in the project database. Regular project surveys together with distribution records will ensure that the technologies included in the project are not double counted.
2. Technologies have a continuous useful energy output of less than 150kW per unit (defined as total energy delivered usefully from start to end of operation of a unit divided by time of operation). For technologies or practices that do not deliver thermal energy in the project scenario but only displace thermal energy supplied in the baseline scenario, the 150kW threshold applies to the displaced baseline technology.	The project technology does not deliver thermal energy; the rehabilitation and installation of water points displace energy supplied in the baseline as they eliminate the need to purify water through boiling; the 150kw threshold therefore applies to the baseline technology. Safe water points displace energy supplied in the baseline as they eliminate the need to purify water through boiling. Based on capped WBT result, the estimated energy output is 11.27Kw which is well within the methodological limit of 150kw.

3. The use of the baseline technology as a backup or auxiliary technology in parallel with the improved technology introduced by the project activity is permitted as long as a mechanism is put into place to encourage the removal of the old technology and the definitive discontinuity of its use.	As noted in the Gold Standard Methodology p.5. 'the removal and continued non-use of three stone fires and other easily constructed traditional devices (the baseline technology replaced by this project activity) is in many cases unlikely and impractical to monitor.' However, local people will be educated on the health and environmental benefits of abandoning inefficient use of the baseline technology. Furthermore a WASH program will be carried out parallel to the project which will help to increase awareness regarding water use, health and hygiene among local communities, see Section B.7.3, g)). This education programme will act as a mechanism to encourage the removal of old technology.
a) The project documentation must provide a clear description of the approach chosen and the monitoring plan must allow for a good understanding of the extent to which the baseline technology is still in use after the introduction of the improved technology, whether the existing baseline technology is not surrendered at the time of the introduction of the improved technology, or whether a new baseline technology is acquired and put to use by targeted end users during the project crediting period.	Overall use of the baseline technology will be monitored in conjunction with that of the project technology, as will the emergence of any other baseline technology by targeted end users. As per the Methodology kitchen surveys will be carried out at regular intervals to determine any changes in baseline technology use.
b) The success of the mechanism put into place must therefore be monitored, and the approach must be adjusted if proven unsuccessful. If an old technology remains in use in parallel with the improved technology, corresponding emissions	Parallel baseline technology use (three stone fires or traditional equivalent) will be revealed during monitoring and its effect on emissions reductions will be captured in the parameter Q, p, clean boil, y and in the usage surveys. The uptake rate U will also be determined by surveys and hence used to

must of course be accounted for as part of the project emissions.''	account for parallel baseline and project technology use.
4. The project proponent must clearly communicate to all project participants the entity that is claiming ownership rights of and selling the emission reductions resulting from the project activity. This must be communicated to the technology producers and the retailers of the improved technology or the renewable fuel in use in the project situation by contract or clear written assertions in the transaction paperwork. If the claimants are not the project technology end users, the end users should be notified that they cannot claim for emission reductions from the project.	A full explanation will be given to elected representatives of water point users that CO2balance UK Ltd have committed to provide them with a rehabilitated and fully maintained water point for free on the basis that the emissions reductions will be transferred to CO2balance UK Ltd. This will be recorded using a Carbon Transfer Form, which elected representatives of water point owners will sign confirming that they understand the agreement and will explain it to water point users.
5. Project activities making use of a new biomass feedstock in the project situation (e.g. shift from non-renewable to green charcoal, plant oil or renewable biomass briquettes) must comply with relevant Gold Standard specific requirements for biomass related project activities, as defined in the latest version of the Gold Standard rules.	As the technology used in this project has been specifically designed to displace baseline feedstock use via fuelwood, rather than a new biomass feedstock, this criterion is not applicable to this project. The emission reductions from this project will result from a change in quantity of fuel consumed, rather than change of fuel type.
a) Adequate evidence is supplied to demonstrate that indoor air pollution (IAP) levels are not worsened compared to the baseline, and greenhouse gases (as listed in section 2.1) emitted by the project fuel/stove combination are estimated with adequate precision. The project fuel/stove combination may include instances in which the project stove is a baseline stove.	The fuel used in both the project and baseline scenario is the same, as such there are no additional harmful gases released in the project scenario. The baseline technology has also not changed; rather its use will have been eliminated.

b) Records of renewable fuel sales may not be used as sole parameters for emission reduction calculation, but may be used as data informing the equations in section 2.0 of this methodology if correlated to data on distribution and results of field tests and surveys confirming (a) actual use of the renewable fuel and usage patterns such as average fraction of non-renewable fuels used in mixed combustion or seasonal variation of fuel types, (b) GHG emissions, (c) evidence of CO levels not deteriorating (d) any further factors effecting emission reductions significantly.	Renewable fuels are not sold as part of this project therefore this point is not applicable.

The project complies with the required conditions stated within Annex 3 of the methodology 'Application of the methodology to safe water supply project' as demonstrated below:

Requirement	**Demonstration of Compliance**
This methodology allows for project activities to include safe water supply technologies implemented in households, commercial premises.	This project involves the rehabilitation of community boreholes which serve households within the targeted project area.
The water in its improved form should be available within 1km walking / pedalling distance from the households	Only users recorded to live within 1km of the boreholes will be recorded in the project database.
Only end users that boil water or are currently using unsafe water are eligible for crediting	The baseline situation demonstrates the characteristics of the baseline scenario prior to the implementation of the project. This project eligible for suppressed demand in the baseline scenario. The application of suppressed demand allows the derivation of the Xboil parameter to determine of those who are currently consuming unsafe water are eligible to be included in the calculation of the emission reductions.
The principles of suppressed demand outlined in Annex 2 can be applied to safe water shortages. To account for this suppressed demand, project proponents can define the baseline scenario of the basis of the quantity of safe water used in the project scenario. This water is calculated based on all activities where the use of contaminated water would imply a health or livelihood risk. This is	Suppressed demand has been applied in line with the requirements, demonstrating it is applicable to be applied from the results of the baseline survey.

measured in the project scenario (after the introduction of the safe water supply technology) as the sum of the amount of safe water supplied and the amount of raw water still boiled. This represents the amount of safe water that would provide premises with a satisfactory level of service.	
In order to ensure that this amount is conservative and does not exceed the definition of a satisfactory level of service, the baseline quantity (of water consumption) is capped at WHO 'basic needs' for treated water.	The amount of water claimed per person per day will be capped at 7 litres/person/day in line with this for full-day premises.
If the most likely scenario for the satisfied demand situation is the use of a modern fuel (e.g,, kerosene, LPG) to boil water rather than non-renewable biomass, this should be taken into account in the evaluation of the baseline emissions.	Annual monitoring surveys will indicate if households are using modern fuel. If this occurs, it will be reflected in the emission calculations accordingly.
The project proponent must conduct project studies for each clean water project scenario prior to verifying emission reductions associated with the given project scenario.	Annual monitoring will take place during each monitoring period in time to inform the Verification documents. This is entail the Project Survey and Usage survey each period and the WCFT every other period.
Water Quality Testing Must be tested every quarter, with the first test within 6 months of the stated project start date. PP shall ensure that water quality is tested at least once during seasons where there is a high chance of contamination. Local non-accredited laboratories can do the quarterly water quality testing. However, at least once every two years, accredited laboratories must perform the water quality testing. If accredited laboratory results differ materially from non-accredited laboratory results, testing with the aberrant non-accredited laboratory must be continued. In any case where the national laws on water quality testing are more stringent, these national standards apply.	Quarterly water quality testing will be undertaken, with the first test taking place within 6 months of the start date of the project. Quarterly testing shall ensure testing is undertaken in the rainy season. In line with TPDDTEC v.3.1, at least one quarterly round of testing every 2 years will be carried out by an accredited laboratory. It will be determined if Burkina Faso has an in-country water standard to test against. If it is deemed no national standard is in place, the methodology requirement to test WHO e-coli in the absence of a national standard will be followed.
Water quality standard Projects shall meet host country standards (where available) for treated water quality. Where national standards are not available, projects shall meet	In line with TPDDTEC v3.1, if a Burkina Faso Policy for Drinking Water Quality is sourced, this will be used for testing the water quality of the boreholes included under this project. In the absence of a national standard, the

WHO standard of less than 1 Colony Forming Unit (CFU) of E.Coli /100ml54. The 90/10 rule must be followed in calculating the sample size required for testing water quality. For boreholes, testing shall be done for samples collected at source as per national /or the above mentioned criteria. The monitoring of hygienic use of water at the user end shall further complement the testing process.	project shall meet WHO standard of less than 1 Colony Forming Unit (CFU) of E.Coli/100 ml. 90/10 precision rule will be followed to derive the number of boreholes to be sampled per quarter. This project involves borehole technologies, in line with TPDDTEC v3.1 the water quality samples will be collected at source. WASH training will be carried out annually to monitor the hygienic use of water.
Hygiene Campaign PP needs to carry out and provide evidence for hygienic campaigns.	WASH Training will be conducted on an annual basis, with the first around the time of the rehabilitation of the boreholes. This will be done with the communities using the boreholes involved within the project. A detailed backdown of the training can be found in section B.7.3, Ongoing Monitoring Studies, g) Annual Hygiene Training. Evidence of the training and agenda will be uploaded in time for each verification.

B.3. Project boundary

Source		GHGs	Included?	Justification/Explanation
Baseline scenario	Combustion of wood fuel to boil water	CO_2	Yes	Important source of emissions
		CH_4	Yes	Important source of emissions
		N_2O	Yes	Gas included in the calculations. Emissions factors for fuel in stationery combustion by the IPCC
Project scenario	Combustion of wood fuel to boil water	CO_2	Yes	Important source of emissions
		CH_4	Yes	Important source of emissions
		N_2O	Yes	Gas included in the calculations. Emissions factors for fuel in stationery combustion by the IPCC

B.4. Establishment and description of baseline scenario

In Burkina Faso, rural communities typically use wood fuel on inefficient three stone fires for cooking and water purification. This process results in the release of greenhouse gas emissions from the combustion of wood. This can be avoided if a technology is used that is more efficient.

A staggering proportion of the population of Burkina Faso do not have access to safe water, many of whom depend on boiling as the only treatment method available or are forced to drink dirty water due to suppressed demand factors such as lack of access to fuel, time and financial resources.

CO2balance UK Ltd seeks to register this project as a Gold Standard micro scale project using the methodology “Technologies and Practices to Displace Decentralized Thermal Energy Consumption Version 3.1.”. Many existing water points have been poorly managed or proven too expensive to maintain properly. In this project CO2balance UK Ltd will work with community groups and local government in Nord region to identify broken down water points and renovate them so that they deliver clean and safe water.

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, however, the exact number will be determined once actual survey data has been collected. CO2balance UK Ltd will rehabilitate and deliver the maintenance programme for each water point to ensure that the quality of the water delivered by the water points is fit for human consumption for the entire length of the project, which will be five years.

The baseline situation is not expected to change significantly during the next years considering the current situation in Burkina Faso, its economic development of the last years and predictions for the future. Burkina Faso is an LDC and is one of the poorest countries in the world with a Human Development Index of 182 out of 189 countries worldwide.

Baseline Scenario:

The baseline scenario is assessed through use of a Baseline Survey.

In accordance with the GS4GG Methodology “Technologies and Practices to Displace Decentralized Thermal Energy Consumption” (TPDDTEC), baseline surveys are carried out using representative and random sampling. The sample size is determined in line with the methodological minimum sample size and

confidence requirements. In order to determine a representative sample population, a sample was determined based on boreholes identified throughout the project area to be included in the project. In order to satisfy 90/30 precision, the recommended sample size of communities to be included in the baseline survey was minimum 7. As the project technology is installed at the start of the project, the baseline scenario is considered fixed throughout the crediting period.

In order to fully understand the baseline scenario, CO2balance UK Ltd conducted a total of 100 Baseline Surveys across the project area, Nord region, Burkina Faso.

The Baseline Survey was conducted between 04/06/2020 and 29/10/2020.

Baseline Survey

In-line with Gold Standard requirements the Baseline Survey provides critical information on target population characteristics, water and fuel consumption needed to purify water, suppressed demand and leakage. According to the relevant Gold Standard methodology the following information was captured in the surveys:

- Address or location
- Telephone number (when possible)
- Number of people served by baseline technology
- Typical baseline technology usage patterns and tasks (commercial, institutional, domestic ect)
- Types of baseline technology used and estimated frequency
- Types of fuels used and estimated quantities.
- Season variation in baseline technology and fuel use
- Sources of fuels and prices paid or effort made

In total 100 Baseline Water Surveys were conducted across the project area, in randomly selected households. The survey comprises questions covering broad topic areas such as household characteristics, water use before and after the safe water project and wood fuel use in the area.

Information collected to inform the baseline included household information, household characteristics, where drinking water was obtained and whether it had to be treated to be safe for consumption. Further questions were asked about cooking methods, fuel types used and how these acquired, and time spent on these tasks.

The results of the baseline survey revealed 97% of people did not have access to a safe water source, using either open wells or rivers/streams, with 100% of respondents consuming unsafe water without treating it. The most common cooking technology was a three-stone fire (100% of respondents) and 100% of respondents recorded firewood as their main fuel source for cooking and boiling water.

Suppressed Demand:

The baseline scenario is assessed in terms of suppressed demand. Suppressed demand is determined through a set of questions in the Baseline Survey that establish the method that 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. 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.

Suppressed demand (xboil) and Cj were calculated from the survey results:

- Xboil: 0%
- Cj: 3.00%

The full methodology of the surveys conducted can be viewed in the baseline report, whilst the full calculation conducted to establish the baseline scenario can be viewed in the ex-ante calculations.

B.5. Demonstration of additionality

Specify the methodology, activity requirement or product requirement that establishes deemed additionality for the proposed project (including the version number and the specific paragraph, if applicable).	As demonstrated in the Gold Standard for the Global Goals Community Services Activity Requirements section 4.1.9 - Projects that meet any of the following criteria are considered as deemed additional and therefore are not required to prove Financial Additionality at the time of Design Certification: 1. (a) Positive list (Annex B) 2. (b) Projects located in LDC, SIDS, LLDC

	3. (c) Micro-scale projects
Describe how the proposed project meets the criteria for deemed additionality.	Burkina Faso is an LDC. This project is also a Micro-scale project and so is deemed additional by the relevant activity requirement.

B.5.1 Prior Consideration

N/A

B.5.2 Ongoing Financial Need

N/A

B.6. Sustainable Development Goals (SDG) outcomes

Relevant Target/Indicator for each of the three SDGs

Sustainable Development Goals Targeted	Most relevant SDG Target	SDG Impact Indicator (Proposed or SDG Indicator)
SDG 3 – Good Health and Well-being	3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination	3.9.2-Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe Water, Sanitation and Hygiene for All (WASH) services)
SDG 6 - Clean Water and Sanitation	6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all.	6.1.1- Proportion of population using safely managed drinking water services

SDG 5 - Gender Equality	5.4 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.	5.4.1 Proportion of time spent on unpaid domestic and care work, by sex, age and location
SDG 13 - Climate Action	13B 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.	Total project emissions reductions

B.6.1 Explanation of methodological choices/approaches for estimating the SDG Impact

Outcomes for SDG 3 (Good Health and Well-Being) are calculated as follows:

The VPAs are premised on generating Emission Reductions by ensuring that water point users have safe water, thereby removing the need for them to burn non-renewable biomass in order to boil water to purify it. Emission reductions are also claimed through the principle of suppressed demand, meaning that users lacked the resources, time or information necessary to purify their water prior to the project. Therefore, the users for whom ERs are claimed through suppressed demand were forced to use unsafe water for drinking, food preparation and basic personal hygiene prior to the project.

In 2010, diarrheal diseases were amongst the top three causes of Disability Adjusted Life Years (DALYS) in Burkina Faso. Therefore, the usage of unsafe water can be taken as a proxy cause of DALYs in Burkina Faso, meaning that using unsafe water is deemed a significant cause of illness and death in the country. Therefore, to ensure access to safe water for households that previously relied on unsafe water sources and had no means to purify can be demonstrated as removing a principle risk for illness and death.

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 water point 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 (Pb, boil) is deducted. Calculations are as follows (parameters from sections B.6.2 and B.7.1 will be applied):

$$P\_safe = P\_y * (1 - C\_j) * (1 - P\_(b, boil))$$

Where:

P_{safe}	Number of additional persons consuming 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.
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.
$P_{b, boil}$	Percentage of persons boiling water for purification in the baseline scenario.

Outcomes for SDG 5 (Gender Equality) are calculated as follows:

Globally, women and girls perform the majority of unpaid domestic work.[1] This leaves them with less time to rest, study and realise their economic potential, leaving them in *time poverty*. In regard to time, women are poorer than men as unpaid domestic duties, such as collecting firewood and water, must be added to their market productive work, making time much more scarce.[2] Women are widely recognised as being principally responsible for natural resource collection.[3]

These trends demonstrate that reducing the amount of firewood required by households has 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. The decrease per household in time spent gathering water will be taken as a proxy contribution towards the SDG target.

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

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

Where:

TR_y	Total reduction time spent collecting water for project activity in year y (hours)
$T_{b,y}$	Time spent collecting water per household per day prior to project (hours)
$T_{p,y}$	Time spent collecting water per household per day in project (hours)

It is predicted that time spent collecting water will be reduced as a result of the project. To infer as to what project participants are doing with their time saved from the project, qualitative questions will be included in the monitoring surveys which ask respondents how they spend their time saved and answers will be divided into designated time use categories. In some circumstances, it may be the case where respondents comment on the tasks they undertook in their spare time and these are recorded by field staff.

Outcomes for SDG 6 (Clean Water and Sanitation) are calculated as follows:

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 water point is determined during the sensitization process during the rehabilitation, possible drop off rates in future will be taken into account in monitoring surveys. The percentage of users who were already consuming safe water in the baseline without boiling it (C_j) will be determined through the second crediting period's baseline survey. Calculations are as follows (parameters from sections B.6.2 and B.7.1 of the VPA-DD will be applied):

$$P\_access = P\_y * (1 - C\_j) * U\_(p, y)$$

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.
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.
$U_{p,y}$	Usage rate in project scenario p during year y.

Outcomes for SDG 13 (Climate Action) are calculated as follows:

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 VPA's emission reductions calculations.

GHG emission reductions, are calculated using the parameters in Section B.6.2 and B.7.1. Full calculations will be provided in time for each Verification.

The overall reduction in CO2 emission reductions is calculated as follows:

$$ERy = (((BEb,y - PEp,y) * Up,y) * LEp,y) * (1 - Xboil)$$

Where:

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

And:

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

Where

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

And:

$$B_{p,y} = \left(1 - C_j\right) * N_{p,y} * W_{p,y} * (Q_{p,rawboil,y} + Q_{p,cleanboil,y})$$

Where:

$BE_{b,y}$ Baseline emissions in baseline scenario b per year y

$PE_{p,y}$ Project emissions in project scenario p per year y

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

$LE_{p,y}$ 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.

Baseline Emissions

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

Where:

$$B_{p,y} = (1 - C_j) * N_{j,y} * W_{i,y} * (Q_{j,y} + Q_{j,rawboil,y}) \quad (11)$$

Where:

$N_{j,y}$	Number of person.days consuming water supplied by project scenario p through year y[47]
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
$B_{b,y}$	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
$Q_{p,rawboil,y}$	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 1 litre of water using technologies representative of baseline scenario b during project year y, as per Baseline Water Boiling Test.

Project Emissions

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

Where:

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

$N_{p,y}$	Number of person.days consuming water supplied by project scenario p through year y
C_j	Expressed as a percentage, this is the portion of users of the project technology j or who in the baseline were already consuming safe water without boiling it
$B_{p,y}$	Quantity of fuel consumed in project scenario p during the year y in tons
$Q_{p,rawboil,y}$	Quantity of raw water boiled in the project scenario p per person per day
$Q_{p,cleanboil,y}$	Quantity of safe water boiled in the project scenario p per person per day
$W_{p,y}$	Quantity of wood fuel or fossil fuel in tons required to treat 1 litre of water using technologies representative of the project scenario p during project year y

B.6.2 Data and parameters fixed ex ante

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	2.32
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 water, 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	

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	$EF_{b,non\ co2}$
Unit	tCO_2e/TJ

<table>
<tr><td>Description</td><td>Non-CO_2 (CH_4 and N_2O) emission factor arising from use of wood fuel in baseline scenario</td></tr>
<tr><td>Source of data</td><td>Default emissions factor:
https://www.ipcc-nggip.iges.or.jp/public/gp/bgp/2_2_Non-CO2_Stationary_Combustion.pdf
https://ghgprotocol.org/sites/default/files/ghgp/Global-Warming-Potential-Values%20%28Feb%2016%202016%29_1.pdf
Global Warming Potential:
http://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html#table-2-14</td></tr>
<tr><td>Value(s) applied</td><td>9.46</td></tr>
<tr><td>Choice of data or Measurement methods and procedures</td><td>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_CO_2e/TJ_{NCV})</th><th>Default Emissions factor (t_CO_2e/TJ_{NCV})</th></tr>
<tr><td>CH_4</td><td>300</td><td>28</td><td>8,400</td><td>8.4000</td></tr>
<tr><td>N_2O</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>
</td></tr>
<tr><td>Purpose of data</td><td>Calculation of emission reductions</td></tr>
<tr><td>Additional comment</td><td>This value corresponds with updated AR5 GWP value linked above.

AR5 - https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_Chapter08_FINAL.pdf</td></tr>
</table>

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

<table>
<tr><td>Description</td><td>Non-CO_2 (CH_4 and N_2O) emission factor arising from use of wood fuel in project scenario</td></tr>
<tr><td>Source of data</td><td>Default emissions factor:
https://www.ipcc-nggip.iges.or.jp/public/gp/bgp/2_2_Non-CO2_Stationary_Combustion.pdf
https://ghgprotocol.org/sites/default/files/ghgp/Global-Warming-Potential-Values%20%28Feb%2016%202016%29_1.pdf
Global Warming Potential:
http://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html#table-2-14</td></tr>
<tr><td>Value(s) applied</td><td>9.46</td></tr>
<tr><td>Choice of data or Measurement methods and procedures</td><td>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_CO_2e/TJ_{NCV})</th><th>Default Emissions factor (t_CO_2e/TJ_{NCV})</th></tr>
<tr><td>CH_4</td><td>300</td><td>28</td><td>8,400</td><td>8.4000</td></tr>
<tr><td>N_2O</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>
</td></tr>
<tr><td>Purpose of data</td><td>Calculation of emission reductions</td></tr>
<tr><td>Additional comment</td><td>This value corresponds with updated AR5 GWP value linked above.

AR5 - https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_Chapter08_FINAL.pdf</td></tr>
</table>

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

Data/parameter	NCV_p
Unit	TJ/ton
Description	Net calorific value of the wood fuel used in the project
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	The VPAs are applying Option 1 of section 2.1 of the 'Application of TPDDTEC Methodology to Safe Water Supply Projects' rule update, which allows application of the default values for parameters Wb,y and Wp,y, i.e., woody biomass: 0.4 kg/l https://globalgoals.goldstandard.org/standards/RU_2021_Application-of-TPDDTEC-methodology-to-Safe-water-supply-projects.pdf
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	The VPAs are applying Option 1 of section 2.1 of the 'Application of TPDDTEC Methodology to Safe Water Supply Projects' rule update, which allows application of the default values for parameters Wb,y and Wp,y, i.e., woody biomass: 0.4 kg/l

	https://globalgoals.goldstandard.org/standards/RU_2021_Application-of-TPDDTEC-methodology-to-Safe-water-supply-projects.pdf
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	

B.6.3 Ex ante estimation of SDG Impact

SDG 3

The impacts of the project towards SDG 3 is measured through the project survey.

$$P_{safe} = X * (1 - Cj) * (1 - Pb,boil)$$

$$P\_safe = 7200 * (1 - 0.03) * (1 - 0)$$

$$P_{safe} = 6984$$

Where:

P_{safe}	Number of additional persons consuming 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.
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.
$P_{b, boil}$	Percentage of persons boiling water for purification in the baseline scenario.

It is estimated that the number of additional persons consuming safe water in the project will be 6984 people.

SDG 5

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

$$TRy = 2.32 - 1.82$$

$$TRy = 0.5$$

Where:

TR_y	Total reduction time spent collecting water for project activity in year y (hours)
$T_{b,y}$	Time spent collecting water per household per day prior to project (hours)
$T_{p,y}$	Time spent collecting water per household per day in project (hours)

It is estimated that the project will save roughly 0.5 hours per household per day. The project survey will monitor how this time is spent and the impact it has towards Gender Equality.

SDG 6

$$P_{access} = P_y * (1 - C_j) * U_{py}$$

$$P_{access} = 7200 * (1 - 0.03) * 0.9$$

$$P\_access = 6286$$

Where:

P_{safe}	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.
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.
X_{boil}	Percentage of premises that would have used other non-GHG emitting technologies like chlorine treatment techniques, if available, in the absence of the project activity.

It is estimated that the project will provide access to safe water to an additional 6,286 people.

SDG 13

CO2 emission reductions are the indicator to demonstrate that the project has raised capacity for effective climate change-related planning and management. These are calculated according to the description in Section B of the VPA-DD.

$$ERy = (((BEb,y - PEp,y) * Up,y) * LEp,y) * (1-Xboil)$$
$$10496 = (((12,276 - 0) * 0.9) * 0.95) * (1-0)$$

Where:

$$BE_{b,y} = B_{b,y} * \left(\left(fNRB_y * EF_{b,fuel,co2} \right) + EF_{b,fuel,nonco2} \right) * NCV_{b,fuel}$$
$$12,276 = 7137 * ((0.90 * 112) + 9.46) * 0.0156$$

And:

$$B_{b,y} = \left(1 - C_j\right) * N_{p,y} * W_{b,y} * (Q_{p,y} + Q_{p,rawboil,y})$$
$$7137 = (1 - 0.03) * 2,628,000 * 0.0004 * (7 + 0)$$

Where

$$PE_{p,y} = B_{p,y} * \left(\left(fNRB_y * EF_{p,fuel,co2} \right) + EF_{p,fuel,nonco2} \right) * NCV_{p,fuel}$$
$$0 = 0 * ((0.9 * 112) + 9.46) * 0.0156$$

And:

$$B_{p,y} = \left(1 - C_j\right) * N_{p,y} * W_{p,y} * (Q_{p,rawboil,y} + Q_{p,cleanboil,y})$$
$$0 = (1 - 0.03) * 2,628,000 * 0.0004 * (0 + 0)$$

It is estimated that each homogenous VPA included within this project will generate an emission saving of 10496 tCO2 which will each be capped at 10,000 tCO2.

B.6.4 Summary of ex ante estimates of each SDG Outcome

SDG3

Year	Baseline estimate	Project estimate	Net benefit
2021-2022	216 people already consuming safe water in the baseline scenario	7200 people consuming safe water in the project activity	6984 additional people consuming safe water
2022-2023	216 people already consuming safe water in the baseline scenario	7200 people consuming safe water in the project activity	6984 additional people consuming safe water
2023-2024	216 people already consuming safe water in the baseline scenario	7200 people consuming safe water in the project activity	6984 additional people consuming safe water

2024-2025	216 people already consuming safe water in the baseline scenario	7200 people consuming safe water in the project activity	6984 additional people consuming safe water
2025-2026	216 people already consuming safe water in the baseline scenario	7200 people consuming safe water in the project activity	6984 additional people consuming safe water
Total	216 people already consuming safe water in the baseline scenario	7200 people consuming safe water in the project activity	6984 additional people consuming safe water
Total number of crediting years			**5 years**
Annual average over the crediting period	**216 people already consuming safe water in the baseline scenario**	**7200 people consuming safe water in the project activity**	**6984 additional people consuming safe water**

SDG5

Year	Baseline estimate	Project estimate	Net benefit
2021-2022	2.32 hours collecting water	1.82 hours collecting water	0.5 hours time saved collecting water per trip
2022-2023	2.32 hours collecting water	1.82 hours collecting water	0.5 hours time saved collecting water per trip
2023-2024	2.32 hours collecting water	1.82 hours collecting water	0.5 hours time saved collecting water per trip
2024-2025	2.32 hours collecting water	1.82 hours collecting water	0.5 hours time saved collecting water per trip
2025-2026	2.32 hours collecting water	1.82 hours collecting water	0.5 hours time saved collecting water per trip
Total	2.32 hours collecting water	1.82 hours collecting water	0.5 hours time saved collecting water per trip
Total number of crediting years			**5 years**
Annual average over the crediting period	**2.32 hours collecting water**	**1.82 hours collecting water**	**0.5 hours time saved collecting water per trip**

SDG6

Year	Baseline estimate	Project estimate	Net benefit
2021-2022	914 people with access to safe water in the baseline scenario	7200 people with access to safe water in the project activity	6286 additional people with access to safe water
2022-2023	914 people with access to safe water in the baseline scenario	7200 people with access to safe water in the project activity	6286 additional people with access to safe water
2023-2024	914 people with access to safe water in the baseline scenario	7200 people with access to safe water in the project activity	6286 additional people with access to safe water
2024-2025	914 people with access to safe water in the baseline scenario	7200 people with access to safe water in the project activity	6286 additional people with access to safe water
2025-2026	914 people with access to safe water in the baseline scenario	7200 people with access to safe water in the project activity	6286 additional people with access to safe water
Total	914 people with access to safe water in the baseline scenario	7200 people with access to safe water in the project activity	6286 additional people with access to safe water
Total number of crediting years			**5 years**
Annual average over the crediting period	914 people with access to safe water in the baseline scenario	7200 people with access to safe water in the project activity	6286 additional people with access to safe water

SDG13

Year	Baseline estimate	Project estimate	Net benefit
2021-2022	12,276 tCO2es	0 tCO2e	10496 tCO2e Capped at 10,000 tCO2e.
2022-2023	12,276 tCO2es	0 tCO2e	10496 tCO2e Capped at 10,000 tCO2e.
2023-2024	12,276 tCO2es	0 tCO2e	10496 tCO2e Capped at 10,000 tCO2e.
2024-2025	12,276 tCO2es	0 tCO2e	10496 tCO2e

			Capped at 10,000 tCO2e.
2025-2026	12,276 tCO2es	0 tCO2e	10496 tCO2e Capped at 10,000 tCO2e.
Total	61,380 tCO2e	0 tCO2e	52,478 tCO2e. Capped at 50,000 tCO2e.
Total number of crediting years			**5 years**
Annual average over the crediting period	**12,276 tCO2es**	**0 tCO2e**	**10496 tCO2e** **Capped at 10,000 tCO2e.**

B.7. Monitoring plan

B.7.1 Data and parameters to be 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	Estimated at 7,200. Actual value to be provided in time for verification.
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	

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	Estimated at 1.82. Actual value to be provided in time for verification.
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, a responsibility falling disproportionately on women, as an indicator of reduced time poverty of women.
Additional comment	

SDG 6

Data / Parameter	Qp,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	Estimated at 0. Actual value to be provided in time for verification.
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 UK Ltd 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)
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	Qp,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	Estimated at 0. Actual value to be provided in time for verification.
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 UK Ltd 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)
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 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 national standards
Description	Performance of the treatment technology
Source of data	Laboratory Tests or field testing kits
Value(s) applied	Estimated to pass. Certificates supplied at verification
Measurement methods and procedures	The water quality will be tested in line with national standards in Burkina Faso or WHO standard for E.Coli in the absence of a national standard. The water samples will be taken at source by the testing body.
Monitoring frequency	Quarterly
QA/QC procedures	At least one round of testing every 2 years will be carried out by an accredited laboratory
Purpose of data	Criteria of methodology
Additional comment	Tested water is collected from source.

SDG 13

Data/parameter	$f_{NRB,i,y}$
Unit	Fractional non-renewability
Description	Non-renewability status of woody biomass fuel in scenario i during year y
Source of data	https://cdm.unfccc.int/Panels/ssc_wg/meetings/035/ssc_035_an20.pdf
Value(s) applied	0.90. Actual value to apply in ERs to be provided in time for verification.
Choice of data or Measurement methods and procedures	Default values of fraction of non-renewable biomass as outlined by the UNFCCC CDM
Purpose of data	Calculation of emission reductions
Additional comment	It is noted that the stated value is expired and is stated only as an example at the time of registration. In time for verification an fNRB value will be calculated in accordance with TPDDTEC v3.1 Annex 1.

Data / Parameter	LEp,y
Unit	tCO2e per year
Description	Leakage in project scenario p during year y.
Source of data	Baseline and monitoring surveys.
Value(s) applied	Estimated at 5%. Actual value applied in time for verification.
Measurement methods and procedures	Assessed every two years using baseline and monitoring surveys. An assessment will be undertaken prior to verification to determine if ERs achieved over the monitoring period need to adjusted to take into account leakage.
Monitoring frequency	Biennial
QA/QC procedures	Transparent data analysis and reporting
Purpose of data	Emission reduction calculations
Additional comment	

Data / Parameter	Np,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	Estimated at 2,628,000 per VPA. Actual value to be provided in time for verification.
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
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	Up,y
Unit	Percentage
Description	Usage rate in project scenario p through year y
Source of data	Annual Usage Survey
Value(s) applied	Estimated at 90%. Actual value to be provided in time for verification.
Measurement methods and procedures	Under a CO2balance UK Ltd imposed project cap, usage rate will be capped at 95%. Annual usage survey will be carried out by staff trained by CO2balance UK Ltd 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	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	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	Qp,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	Estimated at 7 (the cap under TPDDTEC v3.1). Actual value to be provided for verification.
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 UK Ltd 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)
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	Safeguarding Principle: Corruption
Unit	Reported cases
Description	Reported cases of corruption arising from project activity
Source of data	Continuous input mechanism
Value(s) applied	Estimated no cases of corruption. Actual value to be provided in time for verification.
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.
Monitoring frequency	Continuous

QA/QC procedures	Transparent data analysis and reporting
Purpose of data	To monitor 'Corruption' safeguarding principle.
Additional comment	

Data / Parameter	Safeguarding Principle 3: Community Health, Safety and Working Conditions WASH trainings
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 and monitoring Project Survey
Value(s) applied	1 formal WASH training conducted per year per borehole/with WASH committee representatives from each borehole included under this VPA.
Measurement methods and procedures	A WASH programme will be carried out by the project including WASH training at the beginning of the project, as well as subsequent annual WASH follow-up trainings. Each training will follow an agenda and have a participation list collected. The trainings will involve introducing the concept of WASH, duties of village WASH and provide hands-on demonstrations with the community group. Incidences of water borne illnesses will also be monitored through the annual Monitoring Project Survey
Monitoring frequency	Annual
QA/QC procedures	Clear guidance is provided to field staff and transparent reporting
Purpose of data	To monitor 'Community Health, Safety and Working Conditions' safeguarding principle.
Additional comment	

B.7.2 Sampling plan

Cross sampling of devices will be applied across all homogenous VPAs in this project. Homogenous VPAs are defined as those that are sharing a common baseline. The number of water points that will need to be

sampled for a 90/30 confidence/precision will be determined; out of those water points, households will be randomly sampled, complying with the minimum sample size for the particular survey/test.

Individual participants will be randomly selected from the user database. Sample sizes will be in line with the Gold Standard requirements. The random sample group is reselected for every monitoring period to ensure the selection remains random.

The surveys below will be monitored under the cross sampling approach;

Project Surveys - Completed annually
Usage Surveys - Completed annually
Water Consumption Field Tests - Completed biennially

The surveys will be conducted so as to ensure that they are within the end date of the respective monitoring periods for each VPA.

B.7.3 Other elements of monitoring plan

Installation Record

A comprehensive installation record will record the following information:

Date of installation/rehabilitation
GPS location of the water point
Model of the water point
Quantity of water point installed
The total number of people obtaining their water from each water point
Mode of use: commercial/domestic

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

Carbon Transfer From/ Rehabilitation Confirmation Form

A CTF is obtained per borehole and is signed on behalf of the community by an elected representative. Prior to rehabilitation an elected representative will sign the CTF to confirm that they are in agreement with the project funding rationale and they also commit to explaining the nature of the agreement to the community served by the borehole.

The signed CTF will stored in an electronic database along with the serial number, unique ID ascribed by CO2balance UK Ltd and Transform Burkina and the village administrator contact details. This information will be used to populate the installation record.

Project Database

The project database will be derived from the Installation Record, with project technologies differentiated by different project scenarios (if required).

All data collected in relation to the project will be 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.

Maintenance- Borehole Functionality:

Reactive Repair- continuous

Borehole pumps contain moving parts such as chains and bearings which require servicing 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 in the pump assembly have a longer lifespan and require a less frequent replacement. Items such as handles, cylinders, top cones, riser pipes, connecting rods should be checked over during the annual service and replaced if deemed necessary.

It is possible that boreholes pumps can break down unexpectedly. Each community water resources committee are in phone contact with Transform Burkina to alert them of any breakdowns as soon as they occur. If a breakdown is reported, then a price for the repair should be agreed and the work carried out as quickly as possible.

Throughout the lifetime of the project, upon successful completion of a repair, a new Repair Confirmation Form (RCF) will be filled that indicates when the borehole was 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.

Ongoing Monitoring Studies

The following ongoing monitoring studies are conducted for each project scenario following verification of the associated initial project studies.

a) *Water consumption field test* - Completed biennially, prior to first verification and then every 2 years after first verification

The water consumption field test requires a minimum sample of at least 30 households. The test determines three parameters *viz* Q,p,y – the quantity of water supplied in the project scenario using the clean water supply technology; Q p,rawboil,y – the raw or unsafe water that is still boiled after installation of the water supply technology and Qp, cleanboil,y – quantity of safe water boiled in the project scenario after installation of the water supply technology.

The measurement method used is 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 UK Ltd 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

b) *Usage Survey*- Completed annually, on time for any request of issuance

The usage survey provides a single usage parameter Up,y that is weighted based on drop off rates that are representative of the age distribution for project technologies in the installation record.

c) *Monitoring Project Survey* – Completed annually, on time for any request of issuance

The project survey surveys end users using project technologies to explore changes in the project scenario over time.

d) *Quality of the treated water* - Completed quarterly, and in time for 1st verification

The quality of the treated water is assessed to ensure that it is fit for human consumption. It will be assessed in accordance with national standards in Burkina Faso (or in the absence, WHO standard) on a quarterly basis in line with 90/10 sampling.

At the time of design certification, no standard for the quality of drinking water within Burkina Faso was sourced. Prior to the first round of testing, CO2balance UK Ltd and Transform Burkina will determine if a national standard for drinking water exists, if so the WQTs for the lifetime of this project will be tested against those and the standard provided in time for the first verification. Should it be the case no Burkina Faso national standard exists, the WHO standard for E.Coli will be used, in line with the methodology.

e) *Leakage Assessment*- Completed every other year

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. 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.

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.

The potential leakage sources listed in the applied methodology to be investigated during the monitoring are presented below with an initial ex-ante evaluation of their significance:

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 almost 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) Non-project users who previously used lower emitting energy sources use the non-renewable biomass or fossil fuels saved under the project activity.

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. As solar purification devices are not used, 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.

There are registered GS and CDM projects across the country of Burkina Faso. It is difficult at the time of design certification to assess the impact this project activity may have on the fNRB of other projects should the project areas overlap. As such, leakage is a monitored parameter and will be assessed prior to verification (and thereafter every two years in line with the methodology) to accurately assess if leakage needs to be accounted for in the annual emission reductions and to what extent. For the Ex-Ante estimations for this project at the time of design certification, 5% leakage has been applied.

d) The project populations 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.

e) By virtue of promotion and marketing of a 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.

f) Non-renewable Biomass Assessment Update- Reassessed at renewal of crediting period

In accordance with the methodology, the NRB assessment will remain fixed for the entire crediting period, although the project proponent may choose to re-examine the assessment at any time. It is noted that the stated value in parameter box B.7.1 is expired and is stated only as an example at the time of registration. In time for first verification an fNRB value will be calculated in accordance with TPDDTEC v3.1 Annex

g) Annual Hygiene Training

WASH training with the communities involved with the project will be undertaken following the rehabilitation of their borehole. In light of the COVID pandemic, a cautionary approach will be adopted to ensure the trainings are conducted in a COVID-secure, safe way to safeguard the field officers conducting the trainings and the community members attending.

This VPA and all homogenous VPAs comprise a project covering the whole of Burkina Faso. The strategy at which the WASH trainings will be 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.

Which approach is deemed most appropriate and efficient, 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

WASH training will be conducted on an annual basis.

SECTION C. DURATION AND CREDITING PERIOD

C.1. Duration of project

C.1.1 Start date of project

01/08/2021

The start date for this VPA will be determined as the date the first project technology included in the project activity (boreholes for this VPA) was fully rehabilitated. This will be documented with a signed and dated Confirmation Repair Form by the certified borehole technician, who provided operation services required for the borehole rehabilitation. In line with the methodology, this date will indicate the earliest date expenditure was committed to the implementation of the project.

C.1.2 Expected operational lifetime of project

15 years

C.2. Crediting period of project

C.2.1 Start date of crediting period

02/08/2021

C.2.2 Total length of crediting period

5 years

SECTION D. SUMMARY OF SAFEGUARDING PRINCIPLES AND GENDER SENSITIVE ASSESSMENT

D.1 Safeguarding Principles that will be monitored

A completed Safeguarding Principles Assessment is in Appendix 1, ongoing monitoring is summarised below.

Principles	Mitigation Measures added to the Monitoring Plan
Principle 5. Corruption: **1.** The Project shall not involve, be complicit in or inadvertently contribute to or reinforce corruption or corrupt Projects	TBC upon conducting the stakeholder consultation when safe and appropriate to do so under conditions whereby we can collect representative feedback from all categories of stakeholders. The project is applying Covid-19 Interim Measures due to the ongoing Covid-19 pandemic and we have deemed holding a local stakeholder meeting unsafe in the current global situation.
Principle 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	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, and subsequent WASH follow-up trainings.

D.2 Assessment that project complies with GS4GG Gender Sensitive requirements

Question 1 - Explain how the project reflects the key issues and requirements of Gender Sensitive design and implementation as outlined in the Gender Policy?	The project increases women's access to resources such as water by making safe water available in the community. The burden on the whole community of travelling far to collect water and gather firewood for water purification is reduced. This also helps to mitigate the social isolation of spending a long time collecting these resources. Equal participation of women and men in decision making is encouraged by promoting their equal membership on water point committees. These WPCs are trained to facilitate the participation of members depending on their specific circumstances. They also assist all communities members to provide feedback on the project, regardless of their situation. Both women and men benefit from the project activities, no group is excluded from participating in the project activities and the water sources are open to the whole community. The project decreases the workload of women in collecting water and firewood, thereby allowing more time to engage in other activities. The project increases 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.

Question 2 - Explain how the project aligns with existing country policies, strategies and best practices.	The National Programme for Water Supply 2016-2030 (PN-AEP) Ministry of Water and Sanitation (MEA) Government of Burkina Faso The project aligns with the key objectives highlighted within the above report: To sustainably meet the drinking water needs of the population in quantity and quality, to ensure universal access for populations to drinking water services in accordance with the human rights-based approach (AFDH), and to contribute to the sustainable management of Drinking Water Supply (DWS) infrastructure, while respecting universal access to the service of drinking water.
Question 3 - Is an Expert required for the Gender Safeguarding Principles & Requirements?	No
Question 4 - Is an Expert required to assist with Gender issues at the Stakeholder Consultation?	No

SECTION E. SUMMARY OF LOCAL STAKEHOLDER CONSULTATION

The below is a summary of the 2 step GS4GG Consultation for monitoring purposes. Please refer to the separate Stakeholder Consultation Report for a complete report on the initial consultation and stakeholder feedback round.

E.1 Summary of stakeholder mitigation measures

Following the guidance set out in the COVID-19 Interim Measures v3 document, physical stakeholder consultations are currently postponed until the COVID-19 situation eases. Host country (Burkina Faso) laws and regulations regarding the Covid-19 pandemic mean that physical stakeholder meetings are currently infeasible.

The rehabilitation of water points is yet to begin. When the in-country partner begins engagement with the communities and other stakeholders, they will be informed of the continuous input / grievous mechanism. This includes logbooks, phone numbers and email addresses. The process will be discussed further at the LSC.

E.2 Final continuous input / grievance mechanism

Method	Include all details of Chosen Method (s) so that they may be understood and, where relevant, used by readers.
Continuous Input / Grievance Expression Process Book (mandatory)	Log books will be held by water point committees at each borehole. Community members will be informed that they can record their comments in the books. The comments in the books will be collected by Transform Burkina field staff and reviewed by CO2balance UK Ltd during their regular monitoring visits. This will allow community members without access to a telephone or the internet to send comments to the organisations implementing the project. It will also ensure that illiterate community members can leave comments as WASH committees members will records comments on their behalf.
GS Contact (mandatory)	Via email – details below
Telephone access	The following telephone numbers were shared with stakeholders: UK CO2balance UK Ltd Project Manager: +44 1823 332 233 Transform Burkina Project Coordinator (in-country): TBC Stakeholders with telephone access may find this the most convenient way to contact the project partners.
WhatsApp Group	The following mobile number will be shared with stakeholders: Transform Burkina Project Coordinator (in-country): TBC In previous projects stakeholders with internet access via their phones have highlighted this as the most convenient way to contact the in-country project partners to relate information and problems.
Internet/email access	Email addresses for the relevant person at CO2balance UK Ltd and Transform Burkina will be shared with stakeholders:

	UK CO2balance UK Ltd Project Manager: amie.nevin@co2balance.com Burkina Faso Project Coordinator: TBC Gold Standard: helpdesk@goldstandard.org Stakeholders with internet access may find this the most convenient way to contact the project partners.

APPENDIX 1 - SAFEGUARDING PRINCIPLES ASSESSMENT

Complete the Assessment below and copy all Mitigation Measures for each Principle into SECTION D above. Please refer to the instructions in the Guide to Completing this Form.

instructions in the Guide to Completing this Form below.

Assessment Questions/ Requirements	Justification of Relevance (Yes/potentially/no)	How Project will achieve Requirements through design, management or risk mitigation.	Mitigation Measures added to the Monitoring Plan (if required)
Principle 1. Human Rights			
1. 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 2. The Project shall not discriminate with regards to participation and inclusion	No	The project adheres to all human rights requirements including respecting internationally proclaimed human rights and Universal Declaration of Human Rights and does not discriminate in any way.	During all trainings, it is emphasized that project beneficiaries should support vulnerable or less mobile community members to access water.

Principle 2. Gender Equality			
1. The Project shall not directly or indirectly lead to/contribute to adverse impacts on gender equality and/or the situation of women 2. Projects shall apply the principles of non-discrimination, equal treatment, and equal pay for equal work 3. The Project shall refer to the country's national gender strategy or equivalent national commitment to aid in assessing gender risks 4. (where required) Summary of opinions and recommendations of an Expert Stakeholder(s)	No	The project increases women's access to resources such as water by making safe water available in the community. The burden on the whole community of travelling far to collect water and gather firewood for water purification is reduced. This also helps to mitigate the social isolation of spending a long time collecting these resources. Equal participation of women and men in decision making is encouraged by promoting their equal membership on water point committees (WPCs). These WPCs are trained to facilitate the participation of members depending on their specific circumstances. They also assist all communities members to provide feedback on the project, regardless of their situation. In line with Burkina Faso's National Gender Policy – PNG	

		(2009), the project aligns with the Goals and Objectives: 1)Promote equal rights and equal opportunities in terms of access and 2)control of basic social services. The project gives women and girls access to safe water, which in turns reduces the burden on their daily domestic tasks. They are not only gaining access to safe water, a basic human right, but also gaining additional time to enjoy other activities which are their right, such as time to partake in education or economic employment. The project also includes WASH training for communities, improving access and understanding of safe sanitation practices. WASH committees are equally made up of men and women. 3)Promote participatory economic development, as well as access to	

		and more equitable distribution of income and resources. The project gives women and girls access to safe water, which in turns reduces the burden on their daily domestic tasks. They are not only gaining access to safe water, a basic human right, but also gaining additional time to enjoy other activities which are their right, such as time to partake in education or economic employment. The project also includes WASH training for communities, improving access and understanding of safe sanitation practices. WASH committees are equally made up of men and women. 4)Develop equal participation of men and women in the decision-making process at all levels. The project promotes the equal involvement of men and women within the decision making of the project, but also within the project activities throughout the lifetime of	

		the project. The feedback we receive from both men and women from the outset of the project is key to helping design the project. 5)Develop mechanisms and an awareness in all stakeholders in order to bring about a change in behaviour and attitudes towards equity and equality in the relationships between men and women. By involving women in the decision making and empowering them throughout the lifetime of the project through their involvement with training sessions and community WASH committees, the project contributes to raising the profile of women within communities and societies. As aforementioned, due to the project activity, women are able be more active in local markets and generate their own sources of	

		income, promoting an increased perception of equality and equity between men and women. Both women and men benefit from the project activities, no group is excluded from participating in the project activities and the water sources are open to the whole community. The project decreases the workload of women in collecting water and firewood, thereby allowing more time to engage in other activities. The project increases 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. The project increases 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. No further risks or hazards for women and girls have been identified.	
Principle 3. Community Health, Safety and Working Conditions			
1. The Project shall avoid community exposure to increased health risks and shall not adversely affect the health of the workers and the community	No	The project reduces the community exposure to water borne illness through the provision of a safe water source and reduces the risk of household air pollution by removing the need for households to boil water for purification.	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, and subsequent WASH follow-up trainings.
Principle 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?	No	The project area does not include cultural and historic sites. The focus of the project is on rehabilitating and installing water point infrastructure only.	
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Principle 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 does not impact the physical or economic relocation of peoples. The focus of the project is on rehabilitating and installing water point infrastructure only.	
Principle 4.3 Land Tenure and Other Rights			
a. Does the Project require any change, or have any uncertainties related to land tenure arrangements and/or access rights, usage rights or land ownership? b. For Projects involving land use tenure, are there any uncertainties with regards to land tenure, access rights, usage rights or land ownership?	No	The project does not impact on land tenure arrangements or rights.	
Principle 4.4 Indigenous people			
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.	

Principle 5. Corruption			
1. The Project shall not involve, be complicit in or inadvertently contribute to or reinforce corruption or corrupt Projects	Yes	The project ensures 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.	Water point committees have been formed, and are supported, to manage the water points. They receive training through WASH workshops where any forms of corruption are discouraged. Participants are be educated on the benefits of the project. Community members have lines of communication with the project developers to report any complaints or grievances. During the establishment and training of the water point committees, rules and regulations surrounding corruption are elaborated to ensure that all local community level corruption concerns are addressed. These are discussed during follow up visits.
Principle 6.1 Labour Rights			
1. The Project Developer shall ensure that all employment is in compliance with national labour occupational health and safety	No	The project adheres to all labour laws and requirements.	

laws and with the principles and standards embodied in the ILO fundamental conventions 2. Workers shall be able to establish and join labour organisations 3. Working agreements with all individual workers shall be documented and implemented and include: a) Working hours (must not exceed 48 hours per week on a regular basis), AND b) Duties and tasks, AND c) Remuneration (must include provision for payment of overtime), AND d) Modalities on health insurance, AND			

e) Modalities on termination of the contract with provision for voluntary resignation by employee, AND f) Provision for annual leave of not less than 10 days per year, not including sick and casual leave. 4. No child labour is allowed (Exceptions for children working on their families' property requires an Expert Stakeholder opinion) 5. The Project Developer shall ensure the use of appropriate equipment, training of workers, documentation and reporting of			

accidents and incidents, and emergency preparedness and response measures			
Principle 6.2 Negative Economic Consequences			
1. Does the project cause negative economic consequences during and after project implementation?	No	The project is not expected to have any negative economic impacts or cause any risks.	
Principle 7.1 Emissions			
Will the Project increase greenhouse gas emissions over the Baseline Scenario?	No	The project reduces greenhouse gas emissions compared to the baseline scenario.	
Principle 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 water point that use no electricity are included in the project.	
Principle 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 has been no significant change in the volume of water consumed by the households.	
Principle 8.2 Erosion and/or Water Body Instability			
a. Could the Project directly or indirectly cause additional erosion and/or water body instability or disrupt the natural pattern of erosion? b. Is the Project's area of influence susceptible to excessive erosion and/or water body instability?	No	The water is taken from water points at household usage levels. Therefore, it is extremely unlikely that there is additional erosion and/or water body instability or disruption of the natural pattern of erosion.	

Principle 9.1 Landscape Modification and Soil			
Does the Project involve the use of land and soil for production of crops or other products?	No	No crops or other products are produced in the project.	
Principle 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 is no impact by the project to natural disasters.	
Principle 9.3 Genetic Resources			

Could the Project be negatively impacted by or involve genetically modified organisms or GMOs (e.g., contamination, collection and/or harvesting, commercial development, or take place in facilities or farms that include GMOs in their processes and production)?	No	No GMOs are used in the project and the water point would not be affected by GMOs as they are all protected.	
Principle 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 of releasing pollutants to the environment.	
Principle 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.	
Principle 9.6 Pesticides & Fertilisers			
Will the Project involve the application of pesticides and/or fertilisers?	No	No pesticides and/or fertilisers are used in the project.	

Principle 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.	
Principle 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. The project does not involve animal husbandry.	
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Principle 9.9 Animal husbandry			
Will the Project involve animal husbandry?	No	The project has no impact on the quantity or nutritional quality of food. The project does not involve animal husbandry.	
Principle 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 has no impact on the quantity or nutritional quality of food.	

Principle 9.11 Endangered Species			
a. Are there any endangered species identified as potentially being present within the Project boundary (including those that may route through the area)? b.Does the Project potentially impact other areas where endangered species may be present through transboundary affects?	No	There are several endangered species in Burkina Faso. The project does not have any impact on their habitats as it only affects water point infrastructure. The project only impacts water point infrastructure and does not impact other areas where endangered species are present.	

APPENDIX 2- CONTACT INFORMATION OF VPA IMPLEMENTER

Organization name	CO2balance UK Ltd	
Registration number with relevant authority	4889958 (UK company registration number)	
Street/P.O. Box	Cook Way	
Building	1 Discovery House	
City	Taunton	
State/Region	Somerset	
Postcode	TA2 6BJ	
Country	UK	
Telephone	+441823332233	
E-mail	Amie.nevin@co2balance.com	
Website	www.co2balance.com	
Contact person	Amie Nevin	
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Salutation	Ms	
Last name	Nevin	
Middle name	-	
First name	Amie	
Department	Projects	
Mobile		
Direct tel.	+441823332233	

Personal e-mail	Amie.nevin@co2balance.com	

APPENDIX 3-SUMMARY OF APPROVED DESIGN CHANGES

Please refer to Design Change Requirements for more information on procedures governing Design Changes

Revision History

Version	Date	Remarks
1.1	7 October 2020	Hyperlinked section summary to enable quick access to key sections Improved clarity on Key Project Information Inclusion criteria table added Gender sensitive requirements added Prior consideration (1 yr rule) and Ongoing Financial Need added Safeguard Principles Assessment as annex and a new section to include applicable safeguards for clarity Improved Clarity on SDG contribution/SDG Impact term used throughout Clarity on Stakeholder Consultation information required Provision of an accompanying Guide to help the user understand detailed rules and requirements
1.0	10 July 2017	Initial adoption