Gold Standard for the Global Goals
Key Project Information & Project Design Document (PDD)

Version 1.1 – August 2017

Gold Standard

KEY PROJECT INFORMATION

Title of Project:	VPA 145 Manicaland Safe Water (GS6521)
Brief description of Project:	The Micro-Scale Voluntary Project Activity in Manicaland Province (Zimbabwe) is eligible under the Gold Standard methodology Technologies and Practices to Displace Decentralized Thermal Energy Consumption Version 1. The project will support the provision of safe water using borehole technology to hundreds of households within Manicaland. 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.
Expected Implemetation Date: Expected duration of Project:	7th May 2018 21 years
Project Developer:	CO2balance
Project Representative:	Tom Urry
Project Participants and any communities involved:	Diocese of Mutare Community Care Programme (partner NGO)
Version of PDD: Date of Version:	4 26/11/2018
Host Country / Location:	Republic of Zimbabwe
Certification Pathway (Project Certification/Impact Statements & Products	Project Certification
Activity Requirements applied: (mark GS4GG if none relevant)	GS4GG
Methodologies applied:	TPDDTEC version 1
Product Requirements applied:	None
Regular/Retroactive:	Regular
SDG Impacts:	1 – SDG 3 – Good Health and Well-being 2 – SDG 5 - Gender Equality 3 – SDG 6 - Clean Water and Sanitation 4 - SDG 13 - Climate Action
Estimated amount of SDG Impact Certified	1 – SDG 3: 50% decrease in experience of waterborne illness 2 - SDG 5: 40% reduction in time spent collecting water 3 - SDG 6: 2,210 additional people gain access to safe water 4 – SDG 13: 10,000 tCO2e

SECTION A. Description of project

A.1. Purpose and general description of project

>> *(Provide a brief description of the project including the description of scenario existing prior to the implementation of the project.)*

The Micro-Scale VPA 145 Manicaland Safe Water project is eligible under the Gold Standard methodology Technologies and Practices to Displace Decentralized Thermal Energy Consumption Version 1.0. The project will support the provision of safe water using borehole technology to hundreds of households within Manicaland Province, Zimbabwe. 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.

Manicaland is a largely rural province where 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 boreholes 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 will be working in partnership with the local NGO, Diocese of Mutare Community Care Programme (DOMCCP). CO2balance and DOMCCP will work with the government and communities in Manicaland to identify broken down boreholes and rehabilitate them so that they deliver clean, safe water. The capacity of communities to maintain their boreholes will also be supported through the project to ensure that the water keeps flowing. The boreholes included under the project will be powered entirely by emission-free technologies such as hand-powered pumps. The depth of the boreholes will be limited to 100m or less.

The number of boreholes per VPA will be limited by the amount of pure water supplied by each unit; based on ex ante calculations, the maximum number of boreholes that can be rehabilitated in one VPA to achieve 10,000 tCO2e is approximately 10, however, the exact number will be determined once actual survey data has been collected. CO2balance and DOMCCP will rehabilitate the boreholes and deliver the maintenance programme for all the boreholes included in the project activity to ensure that the quality of the water delivered by the boreholes 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 borehole owners must agree to transfer the emissions reductions over to CO2balance in return for them supplying the work to renovate the boreholes. 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.2. Eligibility of the project under Gold Standard

>> *(Describe how the project meets the eligibility criteria as per section 3.1.1 of GS4GG Principles & Requirements document and the relevant activity requirements document)*

The project is eligible under section 3.1.1 of the GS4GG Principles and Requirements as it follows an established Gold Standard methodology. Concerning point 3.1.1.5, 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.

The project is eligible under the Gold Standard Methodology: Technologies and Practices to Displace Decentralized Thermal Energy Consumption Version 1.0. By providing safe water through the rehabilitation of

broken 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.

Further details on eligibility are provided in the table below:

Eligibility Criteria	Description	Means of Verification (Checked at VPA Inclusion)
VPA Location and Project Boundary	The geographical boundary within which the technologies are installed will be within the Project Boundary outlined in Section A.4.4.	The location of VPA 145 is specified in Section A.4.4, in which the CME states that the location is within Zimbabwe; one of the countries outlined in the PoA-DD. Each VPA will be uniquely defined by a range of GPS coordinates and current administrative maps to define the project boundary.
Scale of the Activity	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.	The total number of emission reductions in this VPA will be limited to 10,000t CO2e.
Technology and Target Group	Each VPA will involve the repair and maintenance of boreholes, to households and/or communities currently cooking with firewood on a traditional three-stone stove, for domestic purposes and/or currently boiling water as a treatment method before consumption.	This VPA 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). 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.
Technology Output	The technologies will each have continuous energy outputs of less than 150kW per unit. This will be applied to the baseline technology with regards to the water technology units.	Calculations for the specific technology show that they are within the 150kW Limit. The estimated energy output of the baseline technology is 18.41 Kw, however, following the rehabilitation of the borehole is 0 Kw.
Baseline	The characteristics and current biomass/water consumption of households in the baseline scenario will be identified for each VPA.	A modified Water Boiling Test (WBT) will be carried out for the province of Manicaland in Zimbabwe.

Methodology	Each VPA will be in compliance with Gold Standard Methodology Technologies and Practices to Displace Decentralized Thermal Energy Consumption Version 1.	The applicability of the methodology is justified in Section B.2 and applies to each VPA.
Additionality	Each VPA will demonstrate additionality according to the criteria outlined in the PoA-DD.	This VPA is within Zimbabwe, an LLDC listed under section A.4.1.2 of the PoA-DD. Projects within these countries are deemed additional, as mentioned under section A.4.2.1 of the PoA-DD.
Carbon Transfer	It will be clearly communicated that CO2balance is the entity that is claiming ownership rights of and selling the emission reductions resulting from the project activity.	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. An elected representative from each water resources committee responsible for a borehole will sign a CTF on behalf of all users thereof.
Avoiding Double Counting of Emission Reductions	Each VPA will ensure double counting of emission reductions is avoided, through the unique identification of each technology with an identification number.	Each borehole rehabilitated and installed in this POA will be GPS referenced ensuring that they are uniquely identifiable to this project.
Avoiding Double Counting of Programme Activities	Each VPA will show that it is exclusive to the PoA and not registered as another project activity or VPA under another PoA.	This VPA is neither registered as a project activity with GS or any other standard or as a VPA of another PoA. The appropriate registries (Gold Standard and CDM) can be accessed to demonstrate this.

A.3. 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 DOMCCP. In agreement with DOMCCP, CO2balance 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, Zimbabwe. Boreholes are managed by communities, who are recognised as the main users of the boreholes in the project.

A.4. Location of project

A.4.1. Host Country

Republic of Zimbabwe

A.4.2. Region/State/Province etc.

Manicaland province

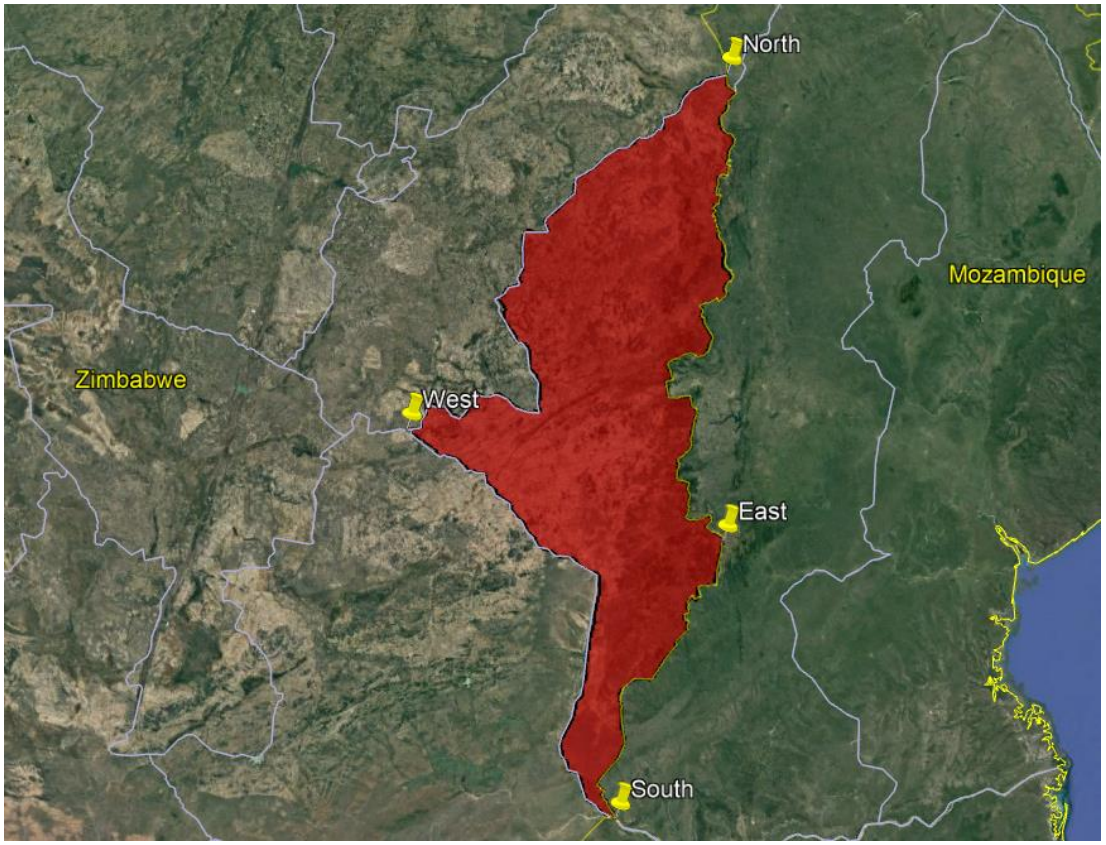
A.4.3. City/Town/Community etc.

Various throughout Manicaland

A.4.4. Physical/Geographical location

Below are details of the physical location to allow unique identification of the project. Manicaland province is marked in red on the Google Earth image. 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 three letter location reference and a sequential number. The location of each borehole will also be recorded using GPS coordinates and this will act as a further mechanism to maintain the unique identification of the boreholes.



Project Area Coordinates

	Latitude	Longitude
North	17°14'47.24"S	32°59'39.30"E
South	21°19'41.42"S	32°28'47.67"E
East	19°47'49.71"S	33° 3'15.79"E
West	19°14'8.05"S	31°12'55.35"E

A.5. Technologies and/or measures

In this project, identified broken down boreholes will be 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 boreholes were installedby government or by community groups or community based organizations (CBOs) and have fallen into disrepair because maintenance programmes have been poorly managed, or proven too expensive. The boreholes included under the project will be entirely human operated and will be fitted with hand pump models that are commonly used in the area such as India Mark II pumps (see below). The depth of the boreholes will be limited to 100m or less.

The number of users for each borehole included in the project is calculated by collecting lists of households reliant on the boreholes in the surrounding community. CO2balance shared a template list with the local partner, DOMCCP, who in turn were responsible for collecting the lists. To ensure the accuracy of the data, the lists were gathered by locally based field officers who know the target communities well and work with the support of community leaders.

A comprehensive maintenance programme is required in order to guarantee a consistent supply of pure water from the borehole pumps that have been rehabilitated. Borehole pumps 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 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 are checked over during the annual service and replaced if deemed necessary. 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.

The boreholes are usually located close to villages. Once repaired, it is predicted that women's time spent collecting water 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 of borheoles 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.

Borehole Technology

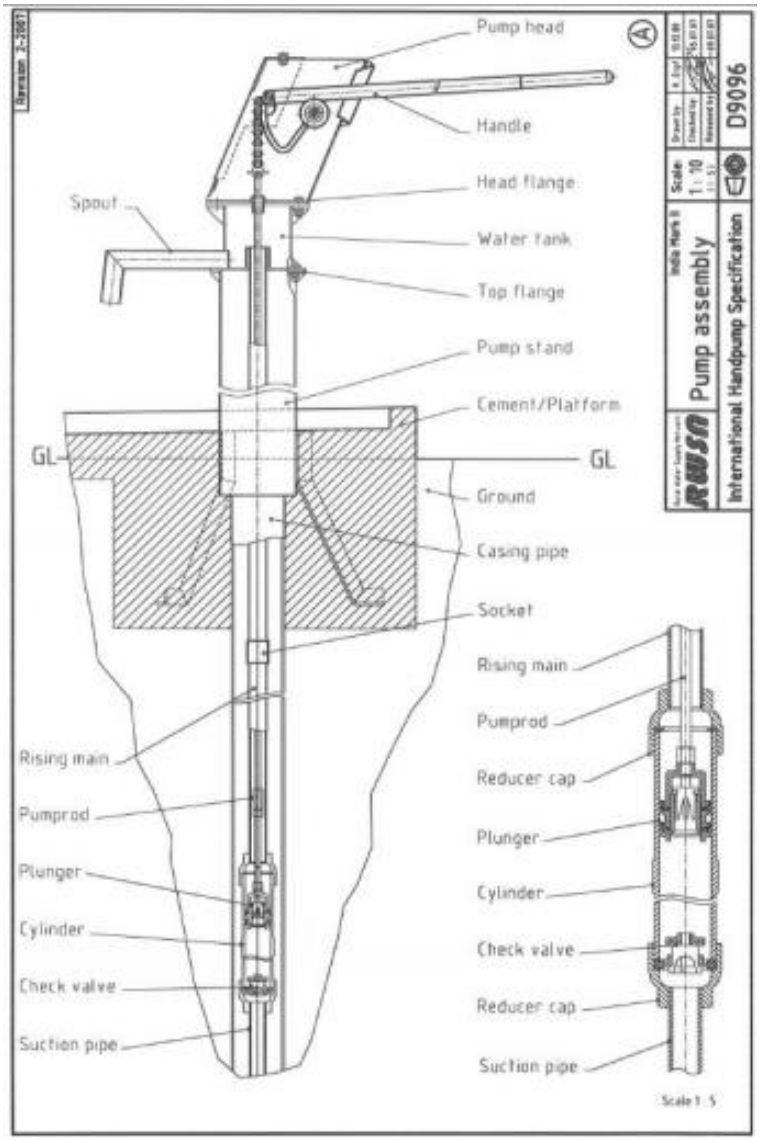
The vast majority of pumps to be fixed are India Mark II pump, Afridev or U3 modified pumps, of which the specifications are given below.. Other hand pump models that utilize the same basic design may also be included in the project. The depth of the boreholes will be limited to 100m or less. Images and technical specifcitions of the different types of pumps are given below:

	Arfidev	India Mark II	U3 Modified
Cylinder diameter (mm):	63.5	50	50
Maximum Stroke (mm):	125	225	125
Approx. discharge at about 75 watt input m3/h:	at 10 m head 1.4	at 10 m head 1.8	at 10 m head 1.2
	at 15 m head 1.1	at 15 m head 1.3	at 15 m head 1.0
	at 20 m head 0.9	at 20 m head 1.0	at 20 m head 0.8
	at 30 m head 0.7	at 30 m head 0.8	at 30 m head 0.6
Pumping lift (m):	10-50	10-45	20-45
Water consumption (lpcd):	15-20	15-20	15-20

The following is a more detailed diagram of the India Mark 2 pump[1]:

[1] Rural Water Supply Network (2018) 'India Mark II'

http://www.rural-water-supply.net/en/implementation/public-domain-handpumps/india-mark-ii



borehole

A.6. 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.

A.7. 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.

A.8. Assessment that project complies with 'gender sensitive' requirements

Question 1: Does the project reflect the key issues and requirements of Gender Sensitive design and implementation as outlined in the Gender Policy?

Yes, the project is Gender Sensitive and it is working towards gender certification. The project saves time for water collectors, who are mainly female, and monitors how much time is saved and the uses of this saved time. This data will highlight the positive impacts on women and feed into the design process of future projects,ensuring that they empower women even further.

The project aims to empower women and girls by encouraging meaningful participation in the Stakeholder Consultation and Water Resource Committees. This helps to shape the project in a gender sensitive way as women have an imput at every stage of the project, from project development to the end user. This gives women an active role in natural resources management and environmental sustainability. The Stakeholder Consultation and inclusive WRCs are Gender Sensitive as it requires community members to question entrenched gender roles, highlight gaps and question why they exist. The monitoring allows for the impacts of these sessions to be evaluated.

Question 2: Does the project align with existing country policies, strategies and best practices?

The Zimbabwean National Gender Policy aims to "eradicate gender discrimation and inequalities in all spheres of life and development". The Policy Objectives relevant to the project are Gender and Economic Empowerment; Gender, Politics and Decision Making; Gender, Education and Training; Gender Based Violence; and Gender, Environment and Climate Change.

i) Gender and Economic Empowerment: *To promote equality and equity in access to economic opportunities for men and women, and to the benefits from the economic development of the country.*

The project promotes equality in access to economic activities as it relieves some of the time burden on women required for collecting water and firewood. It is estimated that the project will save over 1 hour per day. This time can be spent engaging in economic activities which helps achieve equality as well as benefiting the economic development of Zimbabwe. The time saved by the project and what the time is used for is monitored in the Project Survey.

ii) Gender, Politics and Decision Making: *To create a supportive environment for gender parity in politics and decision making positions.*

The project followed the GS "Gender Sensitive" SCR, which actively engaged women in the consultation process. The project will also advance gender equality in community-level decision-making through ensuring strong representation of both women and men on the water point committees that are responsible for managing the boreholes in the project.

iii) Gender, Education and Training

Women and men will benefit from access to training in borehole maintenance and management through the water point committees and as village pump minders, creating a project impact of the project in this area.

iv) Gender Based Violence

The project is expected to impact positively in this regard by mitigating exposure to gender based violence. In the LSC meeting, in discussion of safeguarding and SDG 5, stakeholders reported that women are exposed to gender based violence whilst travelling alone to collect water or firewood

v) Gender, Environment and Climate Change

As demonstrated elsewhere in this document, the project activities are principally targeting to reduce CO2 emissions and thereby mitigate climate change, whilst reducing firewood use locally will benefit the local environment in the project area by reducing deforestation. Men and women are expected to benefit from the way in which the project is implemented through the factors mentioned above which will contribute to gender equality, such as access to training opportunities and reduced exposure to gender based violence for women.

Question 3: Does the project address the questions raised in the Gold Standard Safeguarding Principles & Requirements document?

Yes, this has been included in section D.1.i of the SCR.

Question 4: Does the project apply the Gold Standard Stakeholder Consultation & Engagement Procedure Requirements?

Yes, the project applied the Gold Standard Consultation & Engagement Procedure Requirements and the LSC was "Gender Sensitive".

SECTION B. Application of selected approved Gold Standard methodology

B.1. Reference of approved methodology

>>
Gold Standard Methodology: Technologies and Practices to Displace Decentralized Thermal Energy Consumption Version 1.0.

B.2. Applicability of methodology

In accordance with the Gold Standard Methodology: Technologies and Practices to Displace Decentralized Thermal Energy Consumption Version 1.0, micro scale VPAs listed in the Manicaland province boundary 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 (The province of Manicaland) has been clearly demarcated using political boundaries recognized in Zimbabwe. 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. For example, Chinyudze borehole is the third borehole in Mutare Rural district in Manicaland to be rehabilitated. Therefore, it is tagged as CHI003. Its GPS coordinates are: Southings: 19.29664, Eastings: 32.10878.

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 boreholes 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. Boreholes displace energy supplied in the baseline as they eliminate the need to purify water through boiling. Based on the results of the WBT, the estimated energy output is 18.41 Kw which is well within the methodological limit of 150kw. This has been proven via calculation.
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. 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. The baseline survey indicated that all respondents were using a traditional wood fire to boil water which consists of a three-stone fire.
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 must of course be accounted for as part of the project 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 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 borehole users that co2balance have committed to provide them with a rehabilitated and fully maintained for free on the basis that the emissions reductions will be transferred to CO2balance. This will be recorded using a Carbon Transfer Form, which elected representatives of borehole owners will sign confirming that they understand the agreement and will explain it to borehole 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.

B.3. Project boundary

>> *(Present a flow diagram of the project boundary, physically delineating the project, based on the description provided in section A.5 above.)*

The physical boundary of the project is show in section A.4.4 of this document.

For the purpose of GHG mitigation/sequestration following table shall be completed (delete if not required)

Source		GHGs	Included?	Justification/Explanation
Baseline scenario	Combustion of wood fuel to boil water	CO2	Yes	Important source of emissions
		CH4	Yes	Important source of emissions
		N2O	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	CO2	Yes	Important source of emissions
		CH4	Yes	Important source of emissions
		N2O	Yes	Gas included in the calculations. Emissions factors for fuel in stationery combustion by the IPCC

B.4. Establishment and description of baseline scenario

>> *(Explain how the baseline scenario is established in accordance with guidelines provided in GS4GG Principles & Requirements and the selected methodology(ies). In case suppressed demand baseline is used then same should be explained and justified.)*

In Manicaland province in Zimbabwe, local people 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 local communities have access to safe water and therefore do not need to boil water as a treatment method.

A large proportion of Zimbabwean nationals 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 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 1." Many existing boreholes have been poorly managed, or proven too expensive to maintain properly. In this project CO2balance will work with community groups and local government in Manicaland to identify broken down boreholes and renovate them so that they deliver clean and safe water. The number of boreholes per VPA will be limited by the amount of pure water supplied by each unit; based on ex ante calculations, the maximum number of boreholes that can be rehabilitated in one VPA to achieve 10,000 tCO2e is approximately 6, however, the exact number will be determined once actual survey data has been collected. CO2balance will rehabilitate and deliver the maintenance programme for each borehole to ensure that the quality of the water delivered by the boreholes is fit for human consumption for the entire length of the project, which will be five years.

The baseline scenario is established by reviewing the current fuel use in the project area. The baseline survey showed that 99.2% of respondents are currently reliant on unsafe sources of water such as rivers and streams, whilst 0.8% get their water from water sellers, which is considered a safe source. 48% of respondents currently purify their water before using it for drinking, food preparation and basic personal hygiene, of which 98% boil the water using firewood, whilst 2% filter their water. The percentage of respondents who get their water from water sellers or who filter their water are combined to give the Cj calculation, which is the proportion of individuals that had access to an emissions-free source of water or means of purifying their water. Any households that fall within the Cj calculation are removed from crediting, as explained in the baseline report.

52% of respondents confirmed that they do not currently purify their water despite lacking a safe water source, and in all cases this was found to be related to 'suppressed demand' factors, such as having insufficient fuel. All of these respondents confirmed that they would purify their water by boiling it with firewood if they had the time or resources to do so, so all are counted as suppressed demand users.

The above calculations indicated that 1.76% of users should be removed from crediting via the Cj. The baseline scenario is therefore established by multiplying the number of crediting users by the number of litres used for drinking, food preparation and basic personal hygiene per day which is multiplied in turn by the volume of wood required to purify that volume of water per day. The volume of wood required has been established via the Baseline Water Boiling Test which showed that 1.36kg of wood is required per litre of water.

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.

The baseline situation is not expected to change significantly during the next years considering the current situation in Zimbabwe, its economic development of the last years and predictions for the future. Zimbabwe is a landlocked developing country (LLDC) and is one of the poorest countries in the world with a Human Development Index ranking of 154 out of 188 countries worldwide.

B.5. Demonstration of additionality

>> (If the proposed project is not a type of project that is deemed additional, as stated below, then follow guidelines in section 3.5.1 of GS4GG Principles & Requirements to demonstrate additionality.)
N/A

The table below is only applicable if the proposed project is deemed additional, as defined by the applied approved methodology or activity requirement or product requirement.

Specify the methodology or activity requirement or product requirement that establish 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 2.5.2 - 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.	Zimbabwe is an LLDC. This project is also a Micro-scale project and so is deemed additional by the relevant activity requirement.

B.6. Sustainable Development Goals (SDG) outcomes

B.6.1. Relevant target for each of the three SDGs

>> (Specify the relevant SDG target for each of three SDGs addressed by the project. Refer most recent version of targets here .)

SDG	Target	Indicators	Explain
SDG 3 – Good Health and Well-being	By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases	Reduced incidence of stomach related diseases/illness associated with unsafe water e.g. diarrhoea	By providing safe water from the borehole, the project reduces the occurrence of water-borne diseases locally. This, in turn, is predicted to decrease the incidence of stomach related illnesses and

			diarrhoea associated with the consumption of water-borne diseases.
SDG 6 - Clean Water and Sanitation	By 2030, achieve universal and equitable access to safe and affordable drinking water for all	Additional number of persons having access to safe water	The projects provide equitable access to clean affordable drinking water for all those local to the rehabilitated borehole. Anyone is allowed to use the borehole free of charge which will provide monitored safe drinking water for all.
SDG 5 - Gender Equality	Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate	Time saved collecting water	Projects alleviate the strain of domestic work by providing safe water sources close to villages. It is predicted that time spent collecting water will be reduced. As a result, the physical burden of collecting water is lessened.
SDG 13 - Climate Action	Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities	Total project emissions reductions	The projects will meet SDG 13 by realising a real reduction in CO2e emissions. Furthermore, in pursuance of SDG 5 – Gender Equality, the projects will focus on women and subsequently youth. Boreholes are located in mainly remote rural areas and thus serve marginalised communities.

B.6.2. Explanation of methodological choices/approaches for estimating the SDG outcome

>> (Explain how the methodological steps in the selected methodology(ies) or proposed approach for calculating baseline and project outcomes are applied. Clearly state which equations will be used in calculating net benefit.)

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_{safe}). The number of persons using each borehole 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 baseline survey. The percentage of premises that would have used other non-GHG emitting technologies in the absence of the project activity (X_{boil}) is determined through the baseline survey as well. Calculations are as follows (parameters from sections B.5.1 of the VPA-DD will be applied):

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

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.

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

The outcome of SDG 3 will be qualitatively confirmed using question(s) in the monitoring survey. The question(s) will primarily measure the reduced incidence of stomach related diseases and illness associated with unsafe water. This includes stomach complaints; diarrhea; Typhoid; Cholera and other related illnesses. In addition, questions may be included on the decline of smoke related illnesses as a result of the project in monitoring surveys. The answers to these survey questions will be presented as a percentage of the population experiencing positive health benefits as a result of the project.

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

The indicator for SDG 5 will be measured quantitatively as the time saved as a percentage by project participants to collect water. It is predicted that the project will reduce the time saved to collect water by providing safe water sources close to villages. 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 following calculation demonstrates how we propose to measure the net benefit:

$$T = (t_b - t_p) / t_b$$

Where:

T	Total reduction time spent collecting water for project activity in year y (%)
t_p	Time spent collecting water per household per day in project (hours)
t_b	Time spent collecting water per household per day prior to 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 repondents how they spend their time saved and answers will be divided into designated time use categories. An example answer could be more time spent on the following five categories: sleep, personal, social, economic and domestic activities. 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 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.

Baseline Emissions

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

Where:

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

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

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

Leakage:
The potential sources of leakage listed in the methodology have been investigated, and addressed below:
a) The displaced baseline technologies are reused outside the project boundary in place of lower emitting technology or in a manner suggesting more usage than would have occurred in the absence of the project.

In all cases the baseline technologies displaced are three stones; these have no market value and are not a product as such. There is nothing limiting the use of three stone cooking across the country (the technology is lowest rung on the energy ladder and the price is zero), which is why this cooking method is so widespread. In any case the primary purpose of these three rocks is for cooking so they will not be

replaced/displaced in their entirety as a result of this project - which means they will not be reused outside the project boundary. This leakage source can therefore be discounted.

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

There is no evidence to suggest significant (if any) use of renewable energy for purifying water in the project region as found in the Baseline Water Surveys. 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.

The NRB fraction will be monitored every 2 years. However as the majority of participants collect wood from within the project boundary, it is not expected that the NRB in other areas will be affected. There are currently no other CDM or VER projects in the project area.
d) The project population compensates for loss of the space heating effect of inefficient technology by adopting some other form of heating or by retaining some use of inefficient technology.

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

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

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

A value of 0 is applied for leakage, which will be monitored biennially, following first verification as per the requirements of the methodology.

Overall Emission Reductions

$$ER_y = \left(\left(\left(\Sigma BE_{b,y} - \Sigma PE_{p,y}\right) * Up, y\right) - LEp, y\ \right) * (1 - XBoil)$$

The percentage of non-suppressed demand premises (Xboil) shall be conservatively omitted from the total emission reductions.

For full calculations please see accompanying Ex-Ante Calculations Spreadsheet.

B.6.3. Data and parameters fixed ex ante for monitoring contribution to each of the three SDGs

(Include a compilation of information on the data and parameters that are not monitored during the crediting period but are determined before the design certification and remain fixed throughout the crediting period like IPCC defaults and other methodology defaults. Copy this table for each piece of data and parameter.)

Relevant SDG Indicator	SDG 13 (Climate Action)

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	

Relevant SDG Indicator	SDG 13 (Climate Action)
Data/parameter	$EF_{b,non\ co2}$
Unit	tCO_2e/TJ
Description	Non-CO_2 (CH_4 and N_2O) emission factor arising from use of wood fuel in baseline scenario
Source of data	Default emissions factor: http://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html#table-2-14 Global Warming Potential: http://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html#table-2-14
Value(s) applied	8.692
Choice of data or Measurement methods and procedures	Deemed valid by Methodology

Gas	Default Emissions factor (kg_gas/TJ_{NCV})	GWP of gas	Default Emissions factor (kg_CO_2e/TJ_{NCV})	Default Emissions factor (t_CO_2e/TJ_{NCV})
CH_4	300	25	7,500	7.5000
N_2O	4	298	1,192	1.1920
			Total	**8.692**

Purpose of data	Calculation of emission reductions
Additional comment	

Relevant SDG Indicator	SDG 13 (Climate Action)
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	

Relevant SDG Indicator	SDG 13 (Climate Action)
Data/parameter	$EF_{p,non\ co2}$
Unit	tCO_2e/TJ
Description	Non-CO_2 (CH_4 and N_2O) emission factor arising from use of wood fuel in project scenario
Source of data	Default emissions factor: http://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html#table-2-14 Global Warming Potential: http://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html#table-2-14
Value(s) applied	8.692
Choice of data or Measurement methods and procedures	Deemed valid by Methodology
Purpose of data	Calculation of emission reductions
Additional comment	

Gas	Default Emissions factor (kg_gas/TJ_{NCV})	GWP of gas	Default Emissions factor (kg_CO_2e/TJ_{NCV})	Default Emissions factor (t_CO_2e/TJ_{NCV})
CH_4	300	25	7,500	7.5000
N_2O	4	298	1,192	1.1920
			Total	**8.692**

Relevant SDG Indicator	SDG 13 (Climate Action)
Data/parameter	NCV_b
Unit	TJ/ton
Description	Net calorific value of the wood fuel used in the baseline
Source of data	http://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_1_Ch1_Introduction.pdf Table 1.2
Value(s) applied	0.0156
Choice of data or Measurement methods and procedures	Deemed valid by Methodology
Purpose of data	Calculation of emission reductions
Additional comment	

Relevant SDG Indicator	SDG 13 (Climate Action)
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	

Relevant SDG Indicator	SDG 13 (Climate Action)
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	CDM Default stated in following document: https://cdm.unfccc.int/Panels/ssc_wg/meetings/037/ssc_37_an14.pdf
Value(s) applied	0.97
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	

Relevant SDG Indicator	SDG 13 (Climate Action)
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	Baseline Water Boiling Test
Value(s) applied	0.0013600
Choice of data or Measurement methods and procedures	The baseline water boiling test is used to determine the amount of wood used to purify 1 litre of water by boiling. This data is gathered according to: *Technologies and Practices to Displace Decentralized Thermal Energy Consumption* Version 1, *Draft General Guidelines On Sampling And Surveys*; EB37 Annex 27; and *Standard For Sampling And Surveys For CDM Project Activities and Programme of Activities* (Version 02); EB65 Annex 2
Purpose of data	Calculation of emission reductions
Additional comment	

Relevant SDG Indicator	SDG 13 (Climate Action), SDG 6 (Clean Water and Sanitation)
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	Baseline Water Boiling Test
Value(s) applied	0.0013600
Choice of data or Measurement methods and procedures	The baseline water boiling test is used to determine the amount of wood used to purify 1 litre of water by boiling. This data is gathered according to: *Technologies and Practices to Displace Decentralized Thermal Energy Consumption* Version 1*, Draft General Guidelines On Sampling And Surveys*; EB37 Annex 27; and *Standard For Sampling And Surveys For CDM Project Activities and Programme of Activities* (Version 02); EB65 Annex 2
Purpose of data	Calculation of emission reductions
Additional comment	

Relevant SDG Indicator	SDG 13 (Climate Action), SDG 6 (Clean Water and Sanitation)
Data/parameter	Cj
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	1.76%
Choice of data or Measurement methods and procedures	Deemed valid by Methodology
Purpose of data	Calculation of emission reductions
Additional comment	

Relevant SDG Indicator	SDG 13 (Climate Action)
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%0%
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	

Relevant SDG Indicator	SDG 5 (Gender Equality)
Data/parameter	t_b
Unit	Hours
Description	Time spent collecting water per household per day prior to project
Source of data	Baseline survey
Value(s) applied	1.2
Choice of data or Measurement methods and procedures	Measured by question in the baseline survey
Purpose of data	Calculating time saved collecting water by project
Additional comment	

B.6.4. Ex ante estimation of outcomes linked to each of the three SDGs

>> (Provide a transparent ex ante calculation of baseline and project outcomes (or, where applicable, direct calculation of net benefit) during the crediting period, applying all relevant equations provided in the selected methodology(ies) or as per proposed approach. For data or parameters available before design certification, use values contained in the table in section B.6.3 above. For data/parameters not available before design certification and monitored during the crediting period, use estimates contained in the table in section B.7.1 below)

SDG 3

The impacts of the project towards SDG 3 is measured through the project survey. A percentage figure is calculated from the difference between the baseline and the project survey, which asks how often do you or your family suffer from stomach related illnesses, and which illnesses have they suffered from in the last year: Typhoid; Bilharzia; Cholera; or other?

It is estimated that the project will reduce waterborne illness by at least 50% per year.

SDG 5

$$T = 40\% = \frac{(1.2-0.72)}{1.2}$$

$$T = (t_b - t_p) / t_b$$

Where:

T Total reduction time spent collecting water for project activity in year y (%)

t_p Time spent collecting water per household per day in project (hours)
t_b Time spent collecting water per household per day prior to 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_{safe} = 2,210 = 2,250 * (1 – 0.0176) * (1 – 0)

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

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 2,210 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.

Baseline

$BE_{b,y}$ = 19,672 = 10,747.7 * ((0.97 * 112) + 8.692) * 0.0156

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

Project emissions

$PE_{p,y}$ = 0 = 0 * ((0.97 * 112) + 8.692) * 0.0156

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

Where:

$B_{p,y}$ = 0 = (1 – 0.028) * 1,084,050 * 0.0013600 * (0 + 0)

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

ER_y = 15,738 = (((19,672 – 0) * 0.8) – 0) * (1 – 0)

$$ER_y = \left(\left(\Sigma BE_{b,y} - \Sigma PE_{p,y}\right) * Up, y\right) - LEp, y\ ) * (1 - XBoil)$$

As the ERs are over 10,000 tCO2e, the cap of 10,000 tCO2e per year will be applied.

B.6.5. Summary of ex ante estimates of each SDG outcome

SDG 3

Year	Baseline estimate	Project estimate	Net benefit
Year A	80% have suffered from waterborne illness	30% have suffered from waterborne illness	50% decrease in waterborne illnesses
Year B	80%	30%	50% decrease
Year C	80%	30%	50% decrease
Year D	80%	30%	50% decrease

Year E	80%	30%	50% decrease
Total	80%	30%	50% decrease
Total number of crediting years			
Annual average over the crediting period	80%	30%	50% decrease

SDG 5

Year	Baseline estimate	Project estimate	Net benefit
Year A	1.2 hours collecting water	.72 hours collecting water	40% decrease in time collecting water
Year B	1.2 hours	.72 hours	40% decrease
Year C	1.2 hours	.72 hours	40% decrease
Year D	1.2 hours	.72 hours	40% decrease
Year E	1.2 hours	.72 hours	40% decrease
Annual average over the crediting period	1.2 hours collecting water	.72 hours collecting water	40% decrease in time collecting water

SDG 6

Year	Baseline estimate	Project estimate	Net benefit
Year A	63 people with access to safe water	2,250 people with access to safe water	2,210 additional people with access to safe water
Year B	63 people	2,250 people	2,210 people
Year C	63 people	2,250 people	2,210 people
Year D	63 people	2,250 people	2,210 people
Year E	63 people	2,250 people	2,210 people
Total	63 people	2,250 people	2,210 people
Total number of crediting years			
Annual average over the crediting period	63 people	2,250 people	2,210 people

SDG 13

Year	Baseline estimate	Project estimate	Net benefit
Year A	10,000 tCO2e	0 tCO2e	-10,000 tCO2e
Year B	10,000 tCO2e	0 tCO2e	-10,000 tCO2e
Year C	10,000 tCO2e	0 tCO2e	-10,000 tCO2e
Year D	10,000 tCO2e	0 tCO2e	-10,000 tCO2e
Year E	10,000 tCO2e	0 tCO2e	-10,000 tCO2e

Total	50,000 tCO2e	0 tCO2e	-50,000 tCO2e
Total number of crediting years			
Annual average over the crediting period	10,000 tCO2e	-10,000 tCO2e	-10,000 tCO2e

B.7. Monitoring plan

B.7.1. Data and parameters to be monitored

(Include specific information on how the data and parameters that need to be monitored in the selected methodology(ies) or proposed approaches or as per mitigation measures from safeguarding principles assessment or as per feedback from stakeholder consultations would actually be collected during monitoring. Copy this table for each piece of data and parameter.)

Relevant SDG Indicator	SDG 13 (Climate Action), SDG 6 (Clean Water and Sanitation)
Data / Parameter	N p,y
Unit	Project Technology Days
Description	Number of persons consuming water supplied by project scenario p through year y
Source of data	Borehole Project Database
Value(s) applied	821,250
Measurement methods and procedures	Sum of the total number of people using each borehole in the project multiplied by the number of days crediting each borehole earns in this monitoring period
Monitoring frequency	Continuous
QA/QC procedures	Calculations are double-checked
Purpose of data	Emission reduction calculations
Additional comment	Household lists of borehole users including details for the main contact from the household

Relevant SDG Indicator	SDG 13 (Climate Action), SDG 6 (Clean Water and Sanitation)
Data / Parameter	U p,y
Unit	Percentage
Description	Usage rate in project scenario p through year y
Source of data	Annual Usage Survey
Value(s) applied	Estimated at 0.8. Actual value to be provided in time for each verification
Measurement methods and procedures	Annual usage survey will be carried out by staff trained by co2balance to meet the specific requirements of the methodology. All data presented in excel is subject to checking and cross referencing of a sample of the raw data by co2balance UK Ltd
Monitoring frequency	Annual
QA/QC procedures	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 borehole

Relevant SDG Indicator	SDG 13 (Climate Action), SDG 6 (Clean Water and Sanitation)
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 7.5
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 7.5 litres per person per day as per the methodology. The WCFT will be carried out by staff trained by co2balance to meet the specific requirements of the methodology. All data presented in excel is subject to checking and cross referencing of a sample of the raw data by co2balance UK Ltd.
Monitoring frequency	Biennial (Every 2 years)
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.

Relevant SDG Indicator	SDG 6 (Clean Water and Sanitation)
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 each 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 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.

Relevant SDG Indicator	SDG 6 (Clean Water and Sanitation)
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 first 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 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.

Relevant SDG Indicator	SDG 6 (Clean Water and Sanitation)
Data / Parameter	Quality of Treated Water
Unit	Parameters as per national standards
Description	Performance of the treatment technology
Source of data	Laboratory Tests
Value(s) applied	Certificates supplied at verification
Measurement methods and procedures	The water quality will be tested in line with national standards in Zimbabwe. The water samples will be taken at source by the testing body.
Monitoring frequency	Annually
QA/QC procedures	The first test will be within 6 months of the rehabilitation. At least one test each year conducted by accredited laboratory.
Purpose of data	Criteria of methodology
Additional comment	Water is tested in accredited laboritories. Tested water is collected from source.

Relevant SDG Indicator	SDG 13 (Climate Action)
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	0
Measurement methods and procedures	Assessed every two years using baseline and monitoring surveys
Monitoring frequency	Biennial
QA/QC procedures	
Purpose of data	Emission reduction calculations
Additional comment	

Relevant SDG Indicator	SDG 5 (Gender Equality)
Data / Parameter	t_p
Unit	Hours
Description	Time spent collecting water per household per day in project (hours)
Source of data	Project survey
Value(s) applied	Estimated at 0.72 hours
Measurement methods and procedures	Assessed every year in project survey

Monitoring frequency	Annual
QA/QC procedures	
Purpose of data	SDG 5 impact calculation
Additional comment	

Relevant SDG Indicator	SDG 5 (Gender Equality)
Data / Parameter	t_u
Unit	Percentage
Description	Usage of time saved by the project activity
Source of data	Project survey
Value(s) applied	To be monitored
Measurement methods and procedures	Assessed every year in project survey
Monitoring frequency	Annual
QA/QC procedures	
Purpose of data	SDG 5 impact calculation
Additional comment	

B.7.2. Sampling plan

>> (If data and parameters monitored in section B.7.1 above are to be determined by a sampling approach, provide a description of the sampling plan.)

Cross sampling of devices will be applied across all homogenous VPAs in Manicaland province. Homogenous VPAs are defined as those that are sharing a common baseline. The number of boreholes that will need to be sampled for a 90/30 confidence/precision will be determined; out of those boreholes, households will be randomly sampled, complying with the minimum sample size for the particular survey/test.

Individual participants will be selected from the borehole user data base using the random selection process outlined in the monitoring plan. See Monitoring Plan document. Sample sizes will be in line with the Gold Standard requirements. 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 borehole
- Model of the borehole
- Quantity of boreholes installed
- The total number of people obtaining their water from each borehole
- 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.

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.

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 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) *Quality of the treated water* - Completed annually, 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 Zimbabwe.

d) 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.

e) 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 reexamine the assessment at any time.

For further details and the full Monitoring Plan, see the attached 'Project Monitoring Plan' document.

SECTION C. Duration and crediting period

C.1. Duration of project

21 years

C.1.1. Start date of project

>> (Specify start date of the project, in the format of DD/MM/YYYY. Describe how this date has been determined as per the definition of start date provided in section 3.4.3 of GS4GG Principles & Requirements document and provide evidence to support this date.)

07/05/2018

This is the estimated date of the first borehole rehabilitation, which marks the start of the project.

C.1.2. Expected operational lifetime of project

>> (Specify in years)
21 years

C.2. Crediting period of project

5 years renewable

C.2.1. Start date of crediting period

>> (Specify in dd/mm/yyyy. This can be start of project operation or two years prior to the date of Project Design Certification, whichever is later.)
08/05/2018

C.2.2. Total length of crediting period

>> (Specify the total length of crediting period sought in line with GS4GG Principles & Requirements or relevant activity requirements.)
5 years

SECTION D. Safeguarding principles assessment

D.1. Analysis of social, economic and environmental impacts

>> (Refer the GS4GG Safeguarding Principles and Requirements document for detailed guidance on carrying out this assessment.)

Safeguarding principles	Assessment questions	Assessment of relevance to the project (Yes/potentially/no)	Justification	Mitigation measure (if required)
3.2 Gender Equality and Women's Rights	Is there a possibility that the Project might reduce or put at risk women's access to or control of resources, entitlements and benefits?	No No	The project will increase women's access to resources such as water by making safe water available in the community.	

	Is there a possibility that the Project can adversely affect men and women in marginalised or vulnerable communities (e.g., potential increased burden on women or social isolation of men)?	No	The burden on the whole community of travelling far to collect water and gather firewood for water purification will be reduced. This will also mitigate the social isolation of spending a long time collecting these resources.	
	Is there a possibility that the Project might not take into account gender roles and the abilities of women or men to participate in the decisions/designs of the project's activities (such as lack of time, child care duties, low literacy or educational levels, or societal discrimination)?	Yes	Equal participation of women and men in decision making will be encouraged by promoting their equal membership on water point committees. These WPCs will be trained to facilitate the participation of members depending on their specific circumstances. They will also assist all communities members to provide feedback on the project, regardless of their situation.	
	Does the Project take into account gender roles and the abilities of women or men to benefit from the Project's activities (e.g., Does the project criteria ensure that it includes minority groups or landless peoples)?	No	Both women and men will 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.	
	Does the Project design contribute to an increase in women's workload that adds to their care responsibilities or that prevents them from	No	The project will decrease the workload of women in collecting water	

	engaging in other activities? Would the Project potentially reproduce or further deepen discrimination against women based on gender, for instance, regarding their full participation in design and implementation or access to opportunities and benefits? Would the Project potentially limit women's ability to use, develop and protect natural resources, taking into account different roles and priorities of women and men in accessing and managing environmental goods and services? Is there a likelihood that the proposed Project would expose women and girls to further risks or hazards?	No No	and firewood, thereby allowing more time to engage in other activities. The project aims to benefit the whole community equally and women's equal participation in the LSC and water point committees is encouraged. The project will increase women's ability to use, develop and protect natural resources by making safe water more readily available and enabling women to participate in project decision-making. No further risks or hazards for women and girls have been identified.	
3.4.3 Land Tenure and Other Rights	Does the Project require any change to land tenure arrangements and/or other rights? a. b. c.	No	The project will not impact on land tenure arrangements or rights.	
3.6.2 Negative Economic Consequences	Are there economic impacts and potential risks to the local economy?	No	The project is not expected to have any negative economic impacts or cause any risks.	
4.1.1 Emissions	Will the Project increase greenhouse gas emissions over the Baseline Scenario?	No	The project will reduce greenhouse gas emissions compared to the baseline scenario.	

4.1.2 Energy Supply	Will the Project use energy from a local grid or power supply (i.e., not connected to a national or regional grid) or fuel resource (such as wood, biomass) that provides for other local users?	No	Only hand pumped boreholes that use no electricity are included in the project.	
4.2.1 Impact on natural water patterns and flow	Will the Project affect the natural or pre-existing pattern of watercourses, ground-water and/or the watershed(s) such as high seasonal flow variability, flooding potential, lack of aquatic connectivity or water scarcity?	No	There will be no significant change in the volume of water consumed by the households.	
4.2.2 Erosion and/or water body stability	Could the Project directly or indirectly cause additional erosion and/or water body instability or disrupt the natural pattern of erosion?	No	The water is taken from boreholes at household usage levels. Therefore it is extremely unlikely that there will be additional erosion and/or water body instability or disruption of the natural pattern of erosion.	
4.2.3 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 will be produced in the project.	
4.3.2 Vulnerability to Natural Disaster	Will the Project be susceptible to or lead to increased vulnerability to wind, earthquakes, subsidence, landslides, erosion, flooding, drought or other extreme climatic conditions?	No	There will be no impact by the project to natural disasters.	
4.3.3 Genetic Resources	Could the Project be negatively impacted by the use of genetically modified organisms or GMOs (e.g., contamination, collection and/or harvesting,	No	No GMOs will be used in the project and the boreholes would not be affected by GMOs as they are all protected.	

	commercial development)?			
4.3.4 Release of pollutants	Could the Project potentially result in the release of pollutants to the environment?	No	As safe ground water is used, there is no risk or releasing pollutants to the environment.	
4.3.5 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 harzardous or non-hazardous chemicals and/or materials.	
4.3.6 Pesticides and fertilizers	Will the Project involve the application of pesticides and/or fertilisers?	No	No pesticides and/or fertilisers will be used in the project.	
4.3.7 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.	
4.3.8 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.	
4.3.9 Animal Husbandry	Will the Project involve animal husbandry?	No	The project will not involve animal husbandry.	

SECTION E. Local stakeholder consultation

E.1. Solicitation of comments from stakeholders

>> (Describe how stakeholder consultation was conducted in accordance with GS4GG Stakeholder Procedure Requirements and Guidelines.)

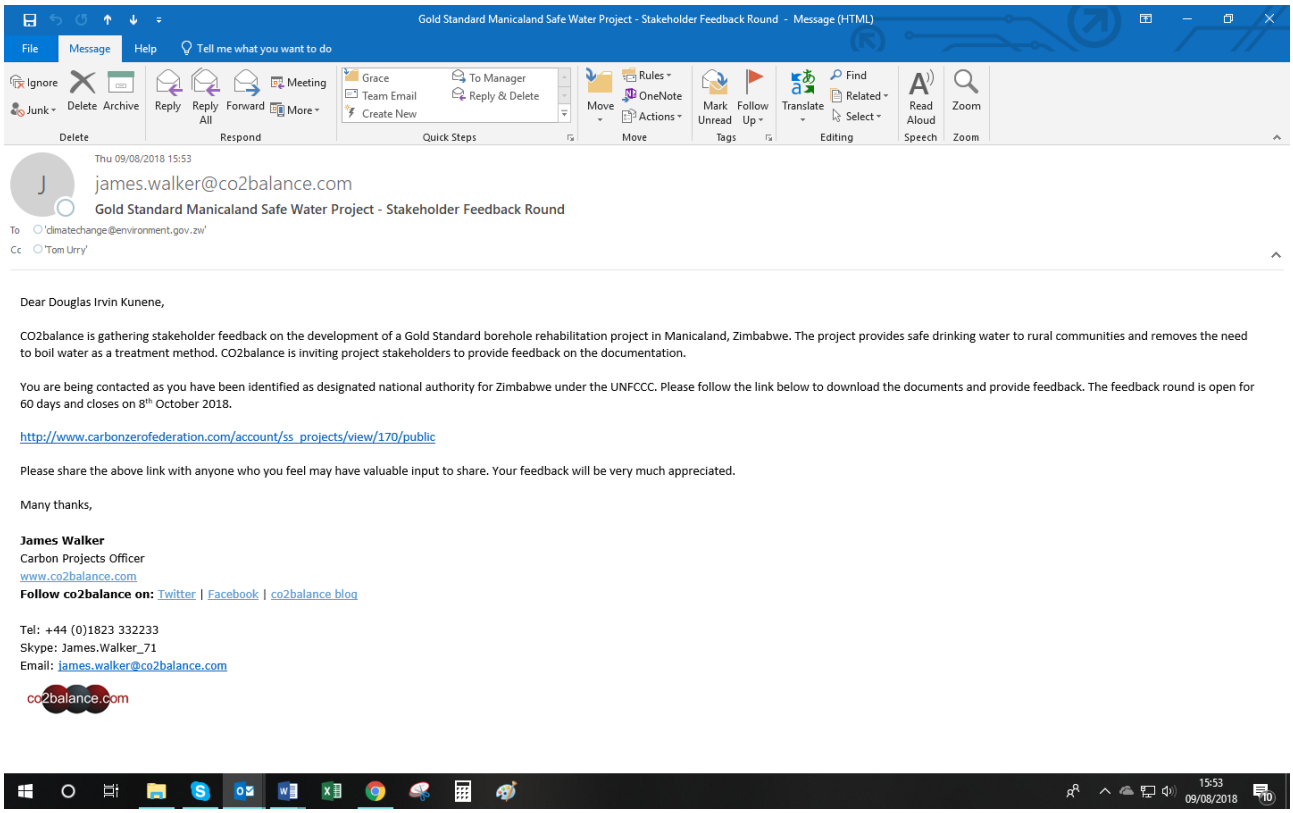
A local stakeholder consultation was conducted in Mutare city on 11th April 2018. In preparation for the meeting, CO2balance and DOMCCP identified the key international and local stakeholders that would need to be informed of the project and consulted on the activities to be conducted. Those identified included Gold Standard international NGO partners, government officials from relevant departments in Zimbabwe and members of the communities to be targeted by the project.

Invitations were issued a month in advance via email to international stakeholders, and at least 2 weeks in advance by letter and word of mouth to local stakeholders.

During the meeting, the planned project activities were presented to stakeholders and they were invited to make comments and raise questions. A sustainable development and safeguarding exercise was then conducted to solicit the stakeholders' views on any risks within the project and the contributions that it should make to sustainable development. Stakeholders were also consulted on their recommendations for monitoring the project and on the best approach for conducting the continuous input/grievance mechanism.

A Stakeholder Feedback Round was subsequently conducted to solicit any further feedback from key stakeholders, including at the national and international level. Documents describing the programme were made available online and contact details given for stakeholders to provide feedback if they wished to do so. As CO2balance was waiting for the initial listing of the VPAs before conducting the SFR, it was launched on 9th August 2018 and lasted 60 days, concluding on 8th October. No further stakeholder comments were received within that timeframe.

The emails sent by CO2balance to Zimbabwe's DNA and to the Gold Standard list of international stakeholders can be seen below:



Gold Standard Manicaland Safe Water Project - Stakeholder Feedback Round - Message (HTML)

File | Message | Help | Tell me what you want to do

Ignore | Junk | Delete | Archive | Reply | Reply All | Forward | Meeting | More | Grace | Team Email | Create New | To Manager | Reply & Delete | Move | Rules | OneNote | Actions | Mark Unread | Follow Up | Translate | Find | Related | Select | Read Aloud | Zoom

Delete | Respond | Quick Steps | Move | Tags | Editing | Speech | Zoom

Thu 09/08/2018 15:53

james.walker@co2balance.com

Gold Standard Manicaland Safe Water Project - Stakeholder Feedback Round

To 'climatechange@environment.gov.zw'

Cc 'Tom Urry'

Dear Douglas Irvin Kunene,

CO2balance is gathering stakeholder feedback on the development of a Gold Standard borehole rehabilitation project in Manicaland, Zimbabwe. The project provides safe drinking water to rural communities and removes the need to boil water as a treatment method. CO2balance is inviting project stakeholders to provide feedback on the documentation.

You are being contacted as you have been identified as designated national authority for Zimbabwe under the UNFCCC. Please follow the link below to download the documents and provide feedback. The feedback round is open for 60 days and closes on 8th October 2018.

http://www.carbonzerofederation.com/account/ss_projects/view/170/public

Please share the above link with anyone who you feel may have valuable input to share. Your feedback will be very much appreciated.

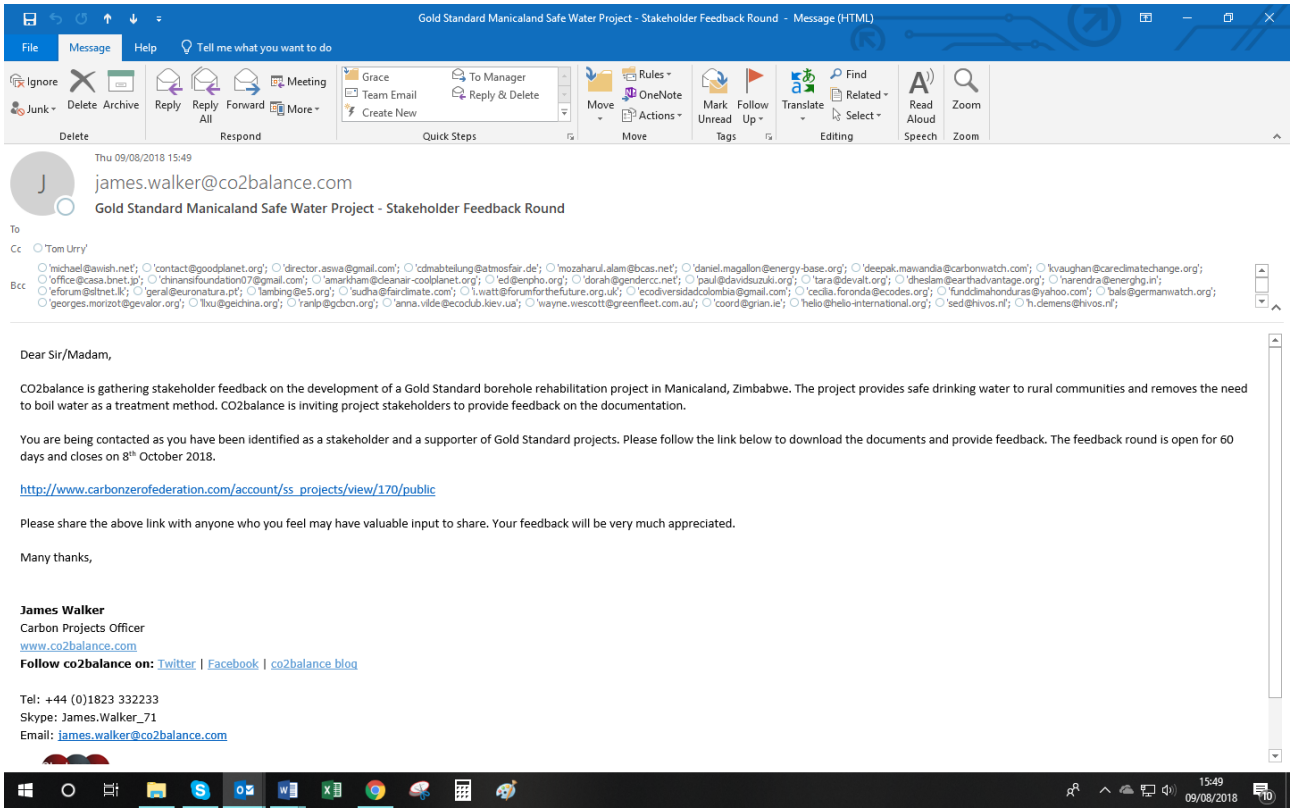
Many thanks,

James Walker
Carbon Projects Officer
www.co2balance.com
Follow co2balance on: Twitter | Facebook | co2balance blog

Tel: +44 (0)1823 332233
Skype: James.Walker_71
Email: james.walker@co2balance.com

co2balance.com

15:53 09/08/2018



E.2. Summary of comments received

>> (Provide a summary of key comments received during the consultation process.)

These comments are presented in section E.3 alongside the responses given to stakeholders.

E.3. Report on consideration of comments received

>> (Describe how the comments have been addressed by providing a clarification to the stakeholder or by altering the design of the project or by proposing to monitor any anticipated negative impacts etc.)

The questions received during the initial Question and Answer section during the meeting are summarised in the following table:

Stakeholder comment	Was comment taken into account (Yes/ No)?	Explanation (Why? How?)
There is need to involve all relevant stakeholders since there were some government offices may already be planning to repair boreholes. As such, it was not proper to redo the same boreholes but to increase coverage to areas not targeted by other partners. It was also important to recruit and train more pump minders since some of the villages no longer had these important cadres. As such existing pump minders instead of being village based were now operating as ward pump minders. Tools for pump minders were also in short supply or were no longer safe to use therefore there was need to	Yes	It was explained that the boreholes to be targeted in the project are being identified with the support of community leaders to ensure that only dysfunctional boreholes which have not been identified for another project are included. It was also explained that village pump minders (VPMs) will receive refresher training and that kits of tools and borehole parts will be made available at the community level for VPMs to use.

check on their availability and procure more kits.		
If funds permit, the project should stretch its interventions to include toilet construction since some communities were still using the 'bush' as their 'toilets'.	Yes	It was explained that funding for construction of new toilets is not currently available in the project although it may be available in later years. However, it was explained that the WASH trainings will provide information on how to place toilets to avoid water contamination and maintain personal hygiene.
After the initial borehole rehabilitations are done, communities should be encouraged to set-up local funding mechanism that could be used to continue managing emerging maintenance cost of boreholes. Stakeholders agreed that if this approach was going to be adopted, the process could be used to promote or instill sense of community ownership and project sustainability. Through proper engagement the community will regard rehabilitated boreholes as their own assets that should be guarded jealously against any form of vandalism, abuse and non-functionality. In this regard, through local contributions, such funding could be established through proceeds generated from internal savings and lending schemes, small livestock or grain donations to kick start the setting up of this noble idea. For this to work, the stakeholders agreed that community leadership was supposed to be encouraged to spearhead, reinforce and sustain the momentum of this initiative. However, the stakeholders agreed that while it was important for local contributions to be encouraged as a sustainability strategy, it was also critical for communities to make special waivers to exempt destitutes or labour constraint households (e.g elderly, child headed, mentally challenged) from making such contributions or denying them access to water.	Yes	This comment was welcomed and it was confirmed that the project will indeed encourage water point committees to raise contributions from local committees in order to generate funds for works such as fencing of the boreholes. Generating this funding is indeed hoped to generate a sense of community ownership of the boreholes. Water point committees will of course be informed that poorer or vulnerable households in the community should not be subject to the same fees as other households more able to make contributions to the borehole.
From previous experiences, boreholes' steel fencing that was provided by the government to protect the perimeter area of the water facilities were in most cases vandalized by local communities. In this light, stakeholders recommended that without cutting down trees, it was best or ideal if	Yes	It was confirmed that the project supports communities in using locally appropriate methods to fencing of boreholes, with the key element being that the fencing should be of a material that the local community can maintain. As such, the use of live fencing or using local materials such as clay

live-fencing could be installed using locally available shrubs or trees.		bricks is greatly encouraged. This will be discussed further with individual water point committees during the rehabilitation process.
Women living with HIV amongst the participants applauded the program and reiterated that People Living with HIV and on Anti-Retroviral Treatment (ART) required safe and clean water to enhance drug efficacy thereby reducing chances of recurrence of opportunistic infections.	Yes	This comment was enthusiastically welcomed – all those present were delighted at the benefits that the project could bring to HIV-positive community members. Further information on the impact of the project in this area will be gathered as the project progresses.

Based on these comments, the project is not going to be altered, but all implementing partners have noted again the need to continue ensuring that boreholes to be rehabilitated are identied with the input of key stakeholders at the community and government level. It is also well noted that village pump minders should indeed receive a comprehensive refresher training to enable them to conduct their duties effectively.

It will also be emphasised that boreholes should be fenced with appropriate locally available materials so that they do not fall into disrepair and can be maintained by the community in a cost-effective way.

Overall comments received from stakeholders were constructive and helpful, re-affirming the approach adopted by the project whilst emphasising areas where care must be taken to ensure sustainability.

Appendix 1. Contact information of project participants

Organization name	CO2balance
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
Fax	N/A
E-mail	Thomas.urry@co2balance.com
Website	www.co2balance.com
Contact person	Tom Urry
Title	Project Manager
Salutation	Mr
Last name	Urry
Middle name	
First name	Tom
Department	Projects
Mobile	N/A
Direct fax	N/A
Direct tel.	+441823332233
Personal e-mail	Thomas.urry@co2balance.com

Appendix 2. Summary of post registration design changes

Revision History

Version	Date	Remarks
1.1	24 August 2017	Updated to include section A.8 on 'gender sensitive' requirements
1	10 July 2017	Initial adoption